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T356

Notes from the annual convention of the A.C.M.I. . . . . . 45  
High loft, spray bonded nonwoven textile fabrics . . . . . 48  
U. S. Rubber develops a new cord forming machine . . . . . 52

# textile bulletin

APRIL • 1958

## Sectional INDEX

Watching Washington	16
Materials	21
Textile Industry Schedule	24
For The Textile Industry's Use	26
For The Mill Bookshelf	32
Living The Textile Industry	41
Opening, Picking, Carding & Spinning	59
Wool Preparation	
Weaving	65
Washing, Dyeing & Finishing	70
Maintenance, Engineering & Handling	71
Personal News	73
Mill News	81
Classified Advertising	93

NOW... Cut Costs with

## SPECIAL DESIGN

For Your specific purpose

Special-built for any required speed

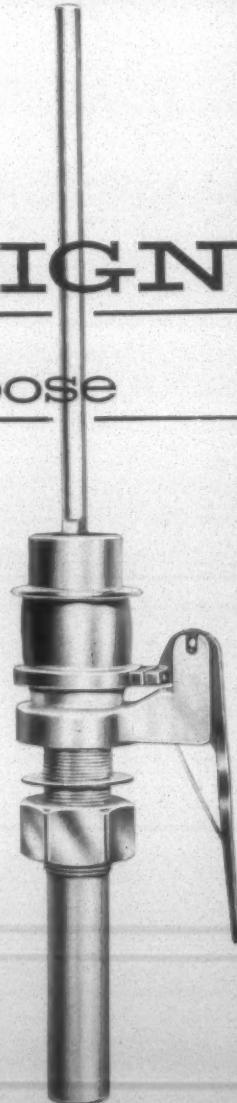
Special-built for any size package

... And incorporating Hartford's many money-saving features:

No lubrication for approx. 5 years with pre-packed, rubber cushioned BALL Bearings (both press fitted to eliminate blade wear)

Patented Snap-out Knee Brake  
Patented Cost-cutting Split-Base

## HARTFORD Job-Adapted Twister Spindle



HARTFORD MACHINE SCREW COMPANY

Division of Standard Screw Co.

Box 1776

Greenville, S.C.



**PROOF  
OF  
ACCEPTANCE**

**OVER  
500,000  
SOLD \***

In the short time since their introduction, over 500,000 Draper "Mirror-Gold" rings have been sold\* to leading textile mills throughout the country. Here is positive proof of performance, quality and design.

This golden colored ring is your guaranty of superior ring quality. Available in all sizes for filling and warp spinning, the Draper "Mirror-Gold" ring reduces spinning costs.

*For economy in one package, order Draper rings, spindles and bobbins.*

*\*As of publication date.*



**DRAPER  
CORPORATION**

Hopedale, Mass.

Atlanta, Ga.   Greensboro, N.C.   Spartanburg, S.C.

# Peak Performance

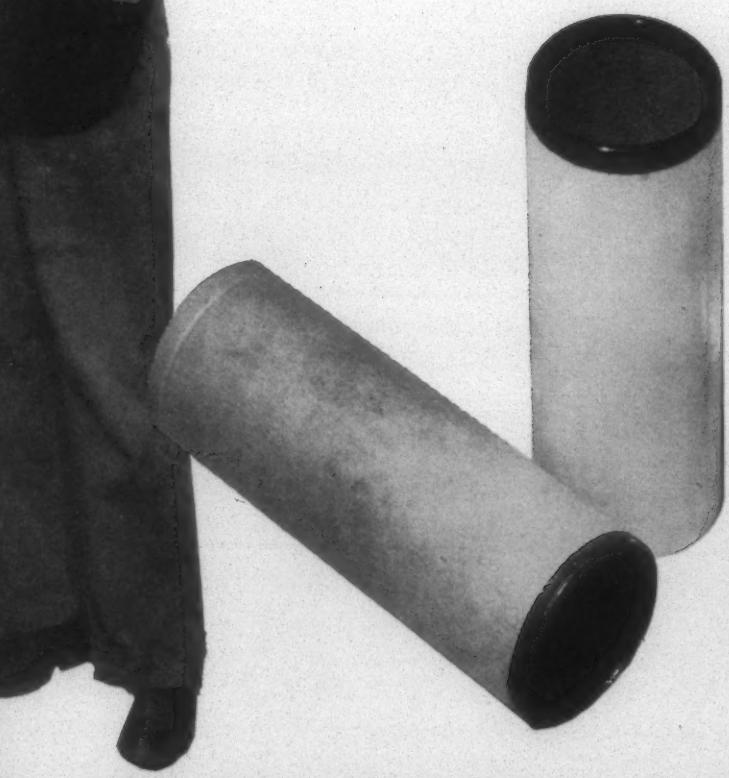
ALWAYS . . . ALL WAYS  
WITH  
**SONOCO PRODUCTS!**



To develop a product that delivers peak performance in production, research is a "must" . . . and SONOCO does it!

For example, SONOCO up-twister, or creeling, tubes are made for top operational efficiency on your machines. They are job-engineered to meet the requirements of balance, take-off and other yarn carrier functions in winding, twisting and creeling.

Every SONOCO product is backed by nearly 60 years of experience in the development of paper carriers to serve the industry with maximum efficiency and economy. For you, the use of SONOCO-researched products mean more profitable production!



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# SONOCO

Products for Textiles

**SONOCO PRODUCTS COMPANY**

**PROOF  
OF  
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**OVER  
500,000  
SOLD \***

In the short time since their introduction, over 500,000 Draper "Mirror-Gold" rings have been sold\* to leading textile mills throughout the country. Here is positive proof of performance, quality and design.

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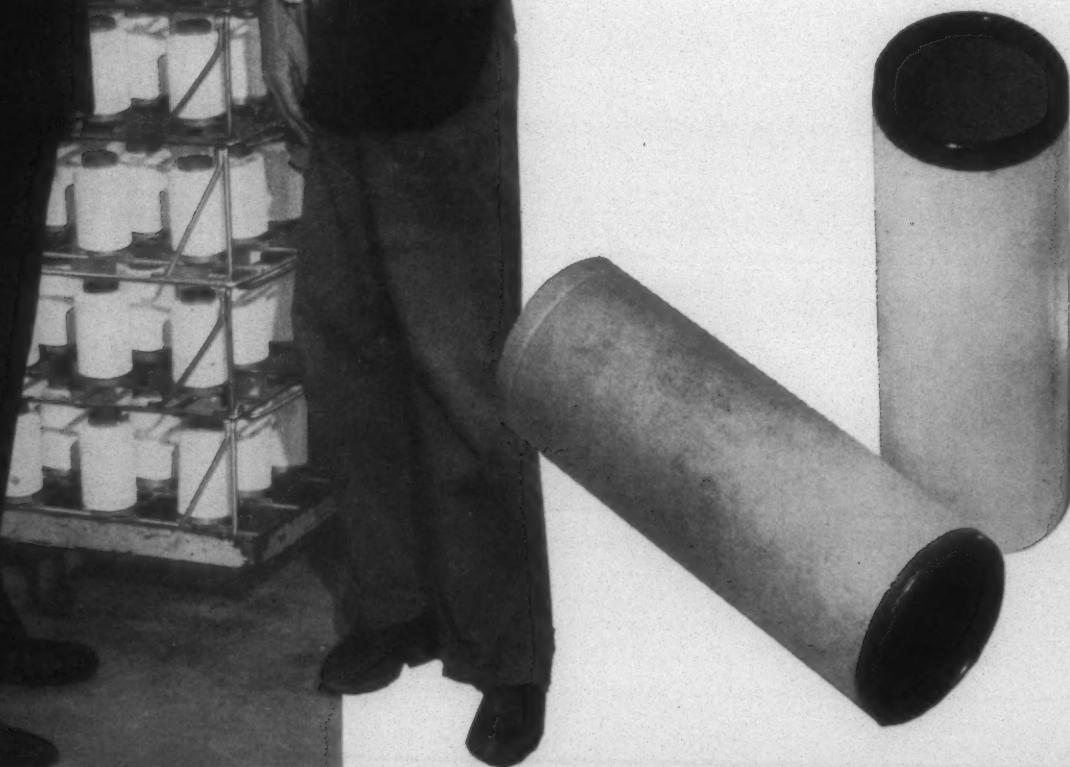
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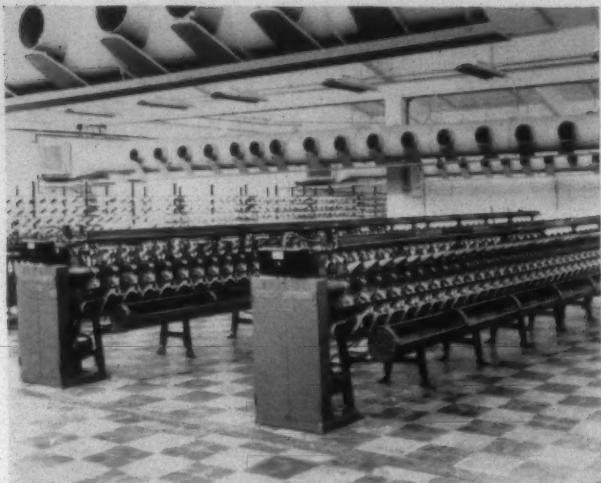


**Products for Textiles**

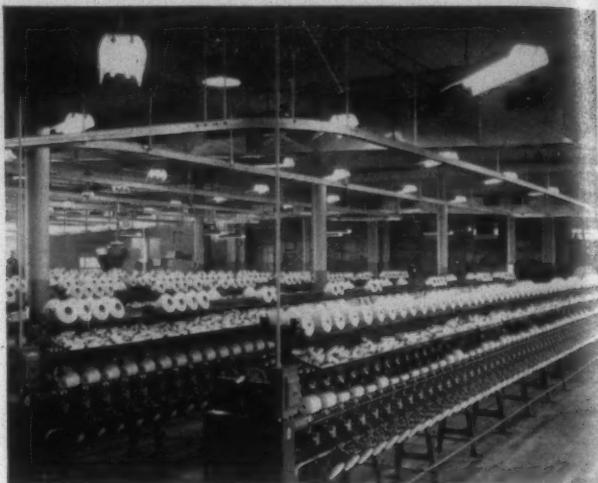
**SONOCO PRODUCTS COMPANY**

# Leesona ROTO-CONER®

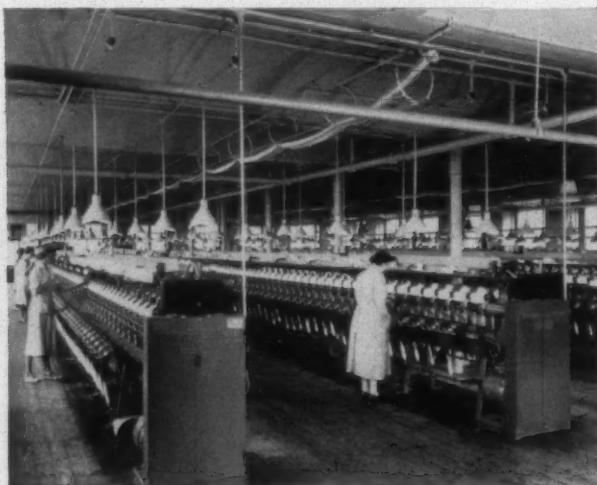
## —the winding way around the world



URUGUAY — Roto-Coners set up to wind onto paper cones. Machines are equipped with round bobbin boxes.



U. S. A. — Roto-Coners winding parallel tubes on one side, cones on the other.



GREAT BRITAIN — Roto-Coners winding open-wind knitting cones.

Every textile manufacturing country in the world uses Leesona Roto-Coners in quantity.

These quiet, trouble-free drum winders produce every type of open-wind package. They wind onto paper tubes and cones for shipment or knitting . . . onto cork-covered, wood cones for warper creels . . . onto perforated tubes and springs for dyeing . . . onto wood tubes and cones for twisting.

Around the world they wind cottons . . . spun syn-



FRANCE — Roto-Coners coning 100s — 120s cotton yarn.

thetic staples . . . wools . . . worsteds . . . linens . . . blends.

The exclusive *Rotary Traverse* on these machines eliminates all moving parts connected with reciprocating guides — permits high speed, reduces maintenance, and assures uniform packages and top quality yarn.

For facts and figures on why these versatile, dependable machines are popular around the world, write for the illustrated Leesona Roto-Coner booklet.

23.6.14



**UNIVERSAL WINDING COMPANY**

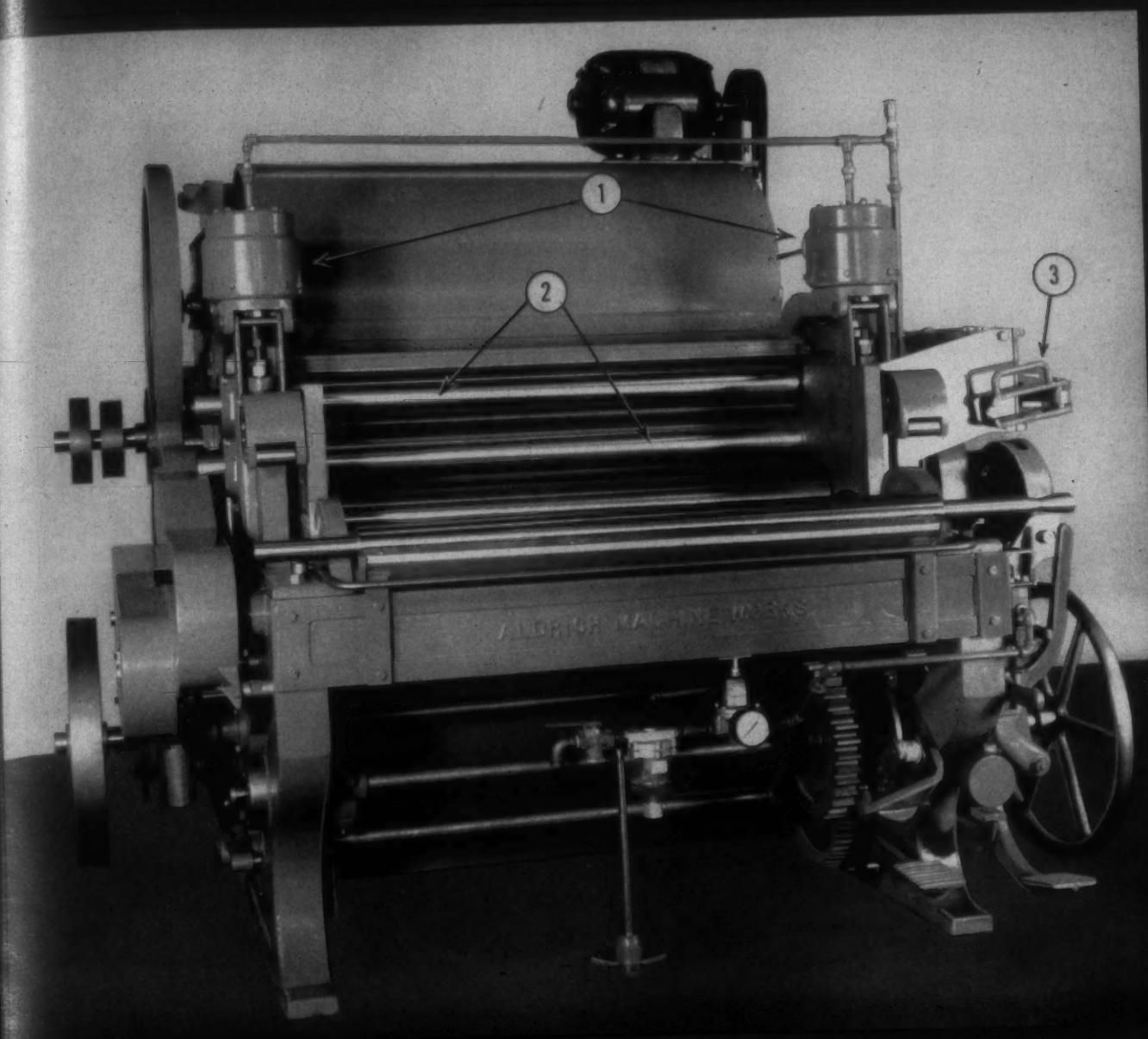
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Sales Offices: Boston • Philadelphia • Utica • Charlotte • Atlanta • Los Angeles  
Montreal • Hamilton, Canada

Agents in every principal textile center throughout the world.

# ALDRICH

HIGH COMPRESSION CALANDER



**1**

Diaphragm air cylinders, having neither pistons nor stuffing boxes, apply resilient pressure up to 12,000 pounds upon the calender rolls. Resilient pressure gives more uniform calendering, and protects the calender from shock loads. All pressure is released each time the calender stops, and is instantly applied when it starts.

**2**

Mechanite calender rolls, stronger and smoother than grey iron, are carried on roller bearings which fit standard roll necks. The special mountings for these bearings keep the rolls perfectly aligned at all times. This is very important where more than three times the usual pressure is applied to the rolls.

**3**

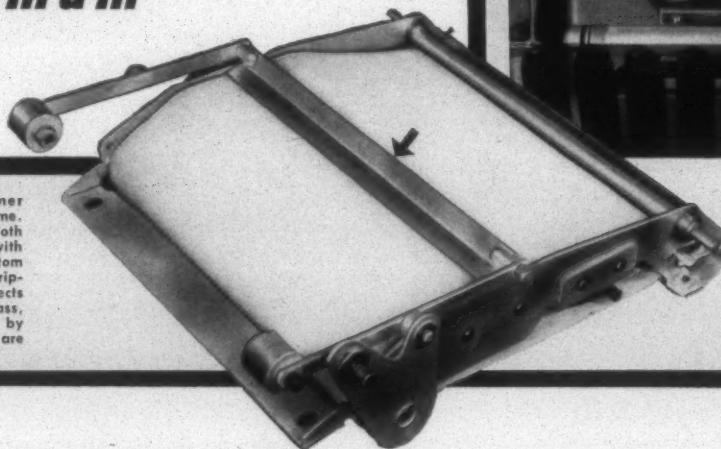
Pneumatic air line having extra pull

and a quick release valve to stop the air from

*Aldrich Machine  
Works*  
Greenwood, South Carolina

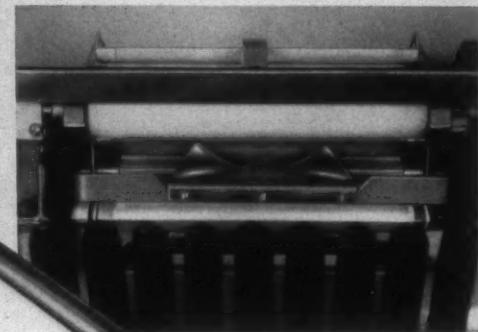
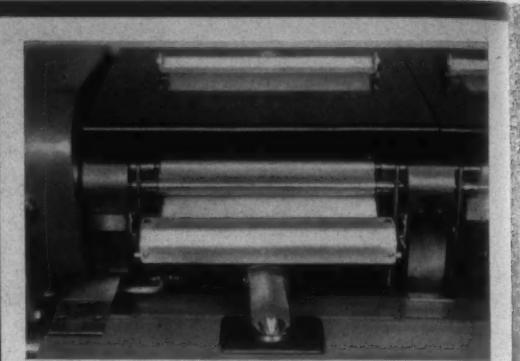
**NOW**—pick clearers only  
at the doff!!

**NEW SACO-LOWELL  
SELF CLEANING  
UNDERCLEARER**  
*Reduces picking to  
a minimum*



Self-Cleaning Undercleaner demounted from the frame. The loose-fitting felt cloth is in constant contact with the surface of the bottom rolls. The oscillating stripping comb (arrow) collects the waste in a loose mass, which is easily removed by operator as full cans are doffed.

As an extra aid in reducing sliver variation, a new sliver pan is attached in such a manner that the distance from the nip of the back rolls to the pan remains the same, regardless of changes in roll setting.



With mills everywhere facing increased cleaning and picking costs due to the sub-standard 1957 cotton crops, Saco Lowell Research has developed this new self cleaning undercleaner assembly which can be applied to both 16" and 18" conventional Saco Lowell Drawing Frames. This time and labor saving changeover cuts operating costs and improves sliver quality. In addition to eliminating picking except at the doff it offers these 4 advantages:

1. Continuous apron keeps roll surfaces clean and lint free.
2. Keeps sliver free of slubs.
3. Apron surface is kept clean by oscillating stripping comb.
4. New sliver pan reduces sliver variation.

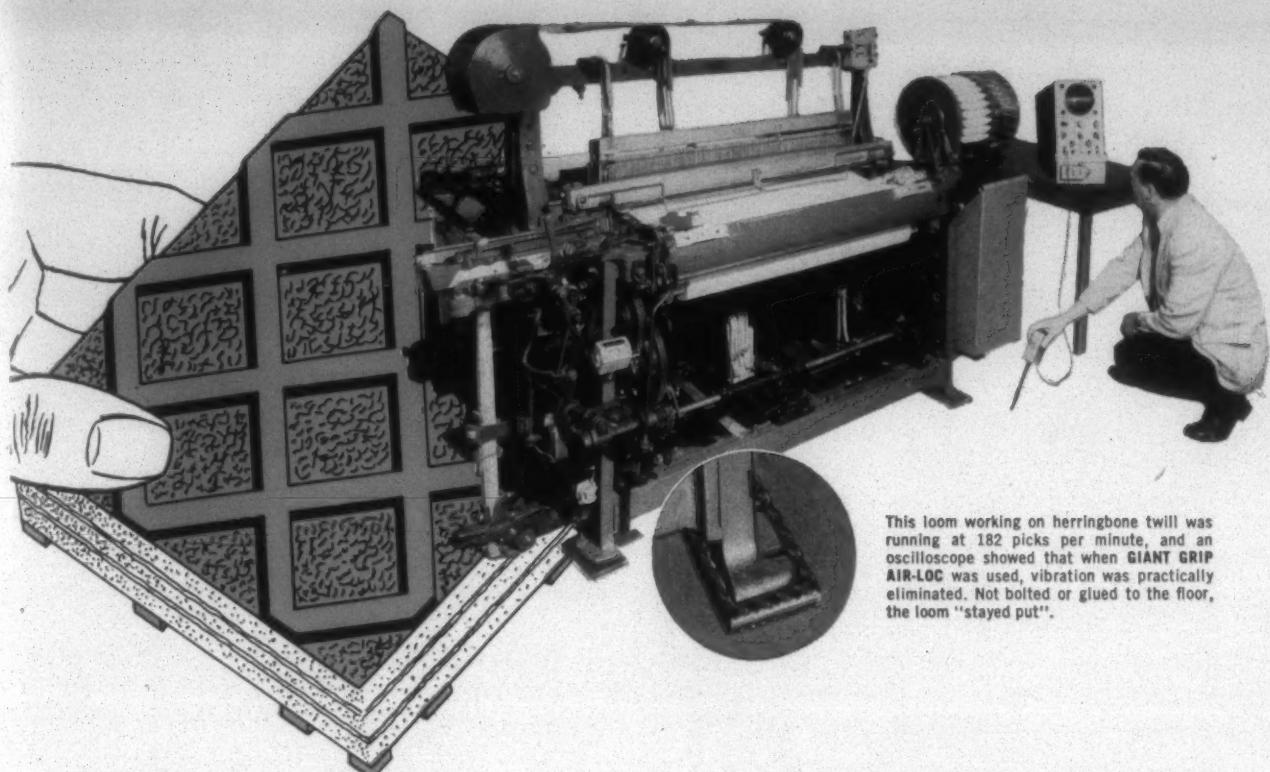
Enjoy substantial savings in your drawing operation with this **NEW SACO LOWELL CHANGEOVER**. Call or write the nearest Saco-Lowell Sales Office for complete information.



**SACO-LOWELL SHOPS**

60 BATTERY MARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD & SACO, MAINE; SANFORD, N.C.; EASLEY, S.C. Sales Offices: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA



This loom working on herringbone twill was running at 182 picks per minute, and an oscilloscope showed that when GIANT GRIP AIR-LOC was used, vibration was practically eliminated. Not bolted or glued to the floor, the loom "stayed put".

**DEVELOPED FOR LOOMS ONLY**

# GIANT GRIP

(patent applied for)

**is the only loom mount that  
gives you all of these  
advantages:**

1. *Saves you money* on installation because you use no bolts, glue or cement.
2. Special grip surface **HOLDS** looms in place, on any type of floor.
3. *Can be reused* when looms are moved, because its vinyl-cork construction is more
4. *Completely resists* oil, ozone and detergents.
5. Turns *vertical* loom movement into *horizontal* movement and practically eliminates the vibration that can cause downtime.
6. *Self-leveling* . . . insures permanent loom alignment.

**For a sample of GIANT GRIP AIR-LOC call:**

*Southern Representative:*

**YEOMANS TEXTILE MACHINERY CO.**

Spartanburg, S. C.

*Northern Representative:*

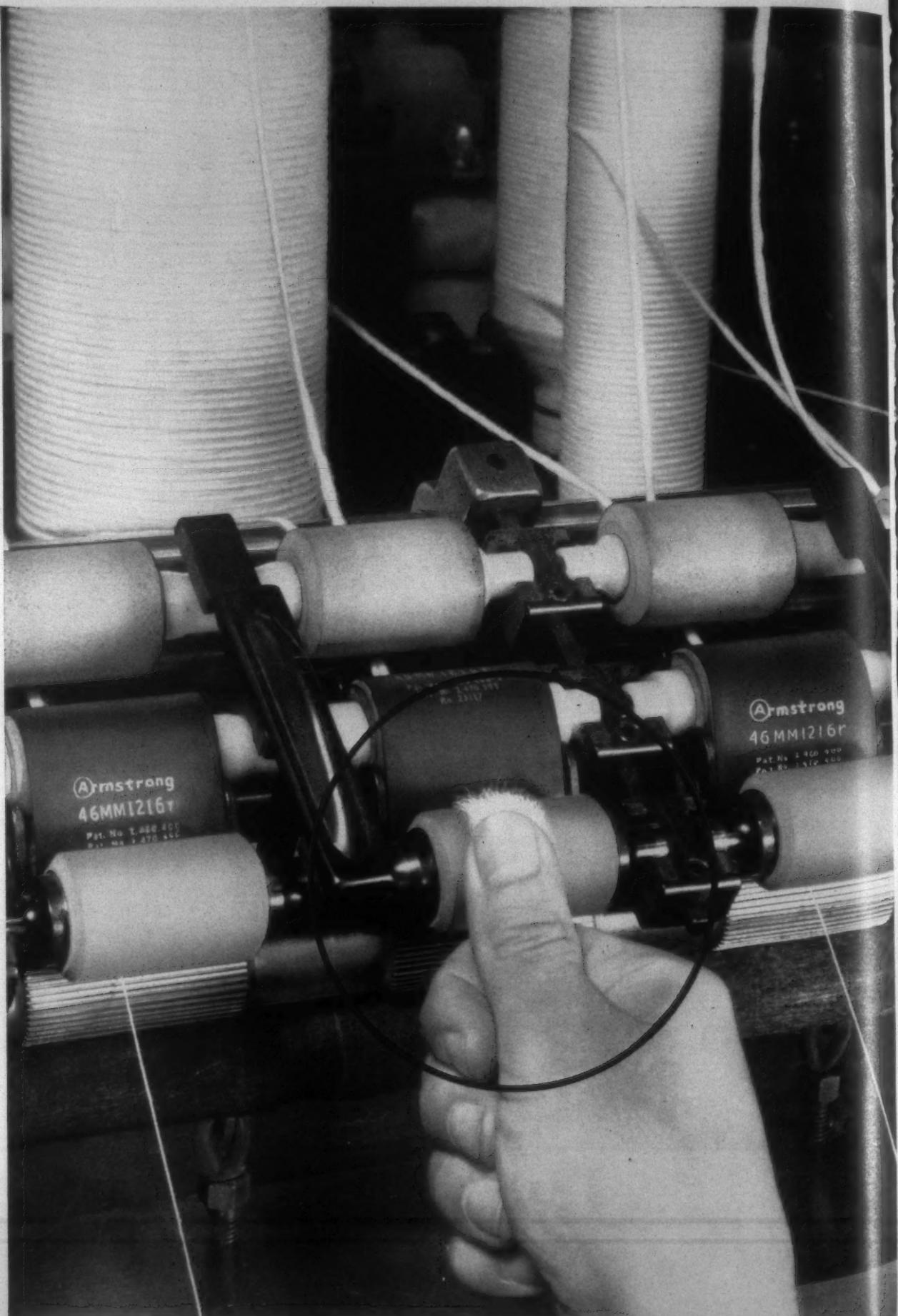
**AMERICAN SUPPLY CO.**

Central Falls, R. I.

or write to the manufacturer:

**CLARK, CUTLER, McDERMOTT CO.**

123 WEST CENTRAL STREET, FRANKLIN, MASSACHUSETTS



# lapping . . .

## How this source of trouble and expense can be minimized with Armstrong Accotex Cots

Front roll laps obviously cost you money in lost production and in the labor used to clear them and get the ends running again. And there is always the risk of damaging the cot if a tight lap has to be cut away.

Lapping can increase your costs in other ways as well. A lap that builds up on one cot can cause irregularities in the yarn produced by the other cot on the same arbor. This happens because a lap, in effect, increases the diameter of a cot and thus upsets the weight distribution on the arbor. The higher weighting on the non-lapping cot can actually result in premature wear of some roll covering materials.

Hundreds of mills have proved that the expense and trouble caused by lapping can be reduced to a minimum with Armstrong Accotex Cots. The Accotex line includes a

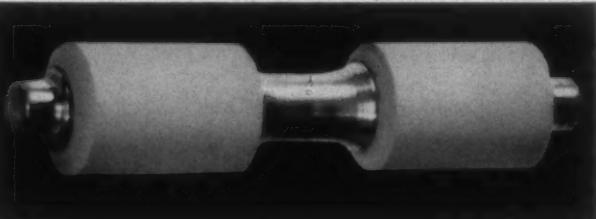
number of materials that are specially compounded to eliminate lapping.

For example, Accotex J-490 Cots, made of a patented synthetic rubber material, contain electrolytes that tend to repel broken ends and prevent them from lapping.

Where high static aggravates the lapping problem, one of the new anti-static Accotex materials is often the solution. These new materials are made especially to minimize lapping on frames where non-metallic cap bars are used and where other metal-to-metal contacts have been eliminated.

Your Armstrong man can help you select the right Accotex roll cover for best performance on your equipment, whether you're spinning natural fibers, synthetics, or blends. Call him today or write Armstrong Cork Co., 6504 Davis Ave., Lancaster, Pa.

For long service life and freedom from lap-ups, choose one of the Accotex Cots with built-in lap resistance. Typical of these time- and money-saving cots is the Accotex J-490, now used in hundreds of U. S. mills.



**Armstrong ACCOTEX COTS**  
*... used wherever performance counts*

# Man-made or natural staple...

... Uster Spectrograph is the heart of effective fiber control.

Faced with a shortage of high-quality natural fibers, some mills are successfully blending natural and man-made staple to produce top-quality yarn. 25% gain in yarn strength and 250% increase in abrasion resistance have been reported.

Uster Spectrogram tells the whole story of blend behavior. All variations are stored on 30 channels simultaneously with the operation of the Evenness Tester.

In 4 to 6 minutes the Spectrogram is automatically delivered for immediate and complete analysis.

## SALES OFFICES

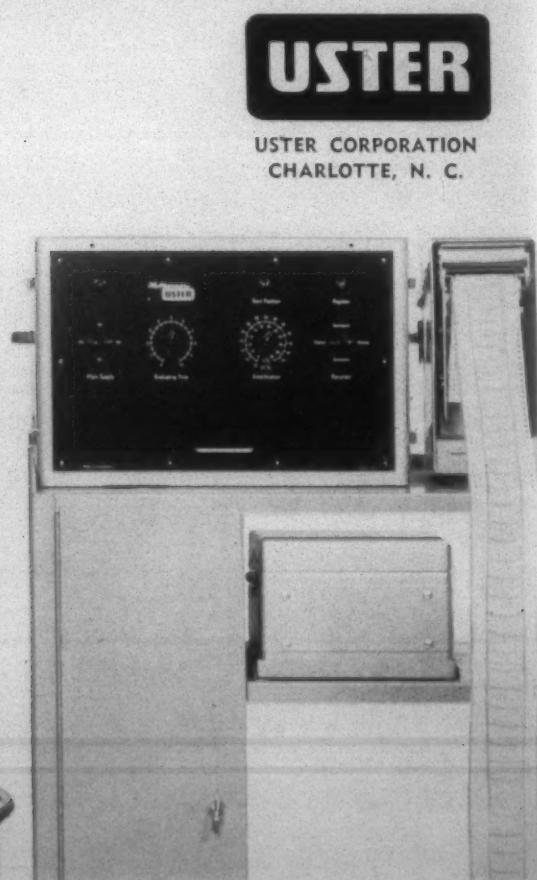
U. S. SALES OFFICES: ATLANTA, GEORGIA,  
NEEDHAM HEIGHTS, MASSACHUSETTS

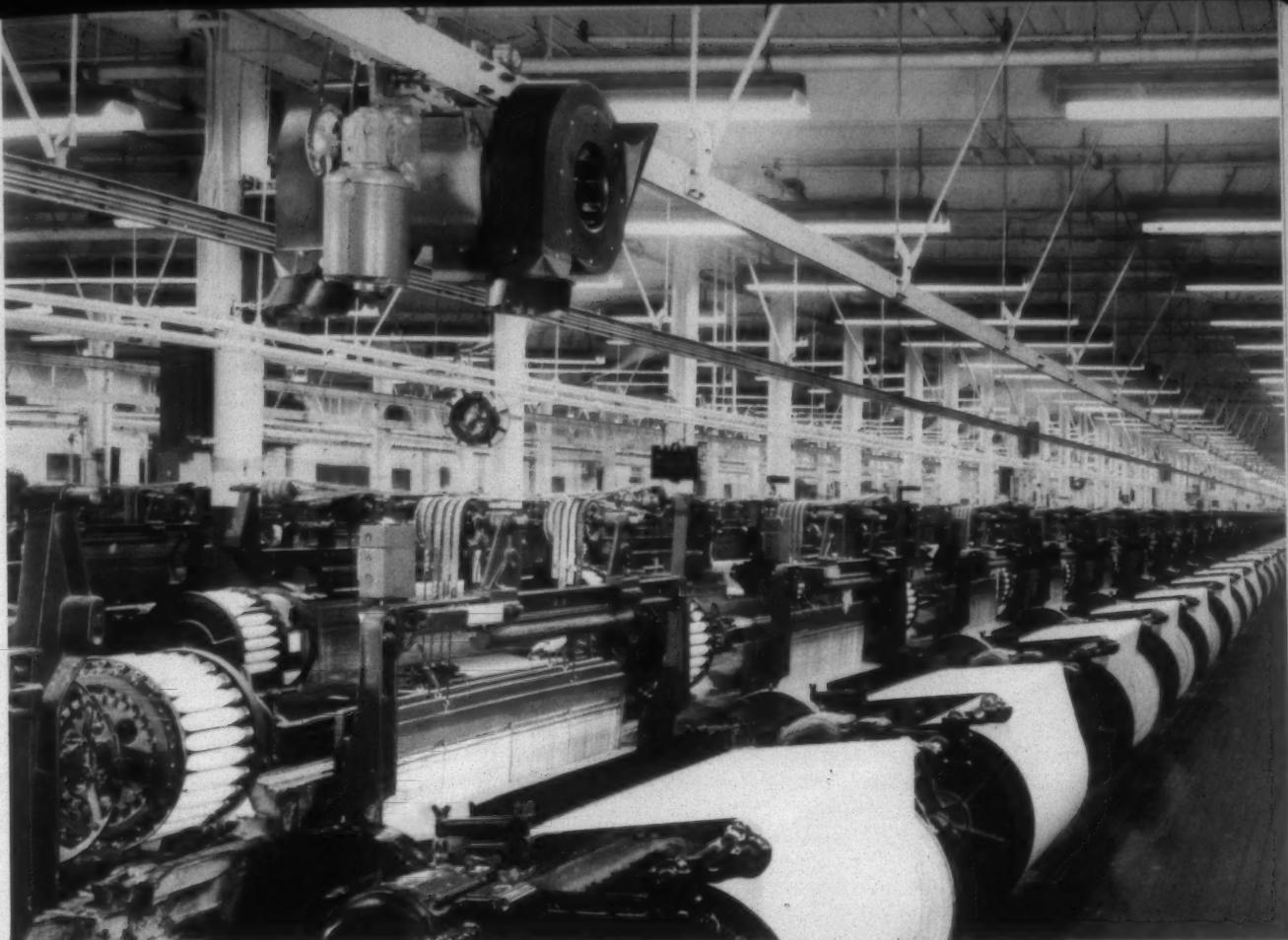
CANADIAN SALES OFFICE: HUGH WILLIAMS  
& CO., 27 WELLINGTON ST., EAST TORONTO  
1, ONTARIO

## FOR THE USTER SPECTROGRAPH

**USTER**

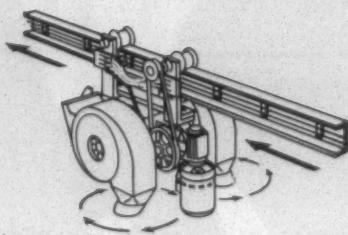
USTER CORPORATION  
CHARLOTTE, N. C.





# Introducing the AMCO HELICLONE LOOM CLEANER

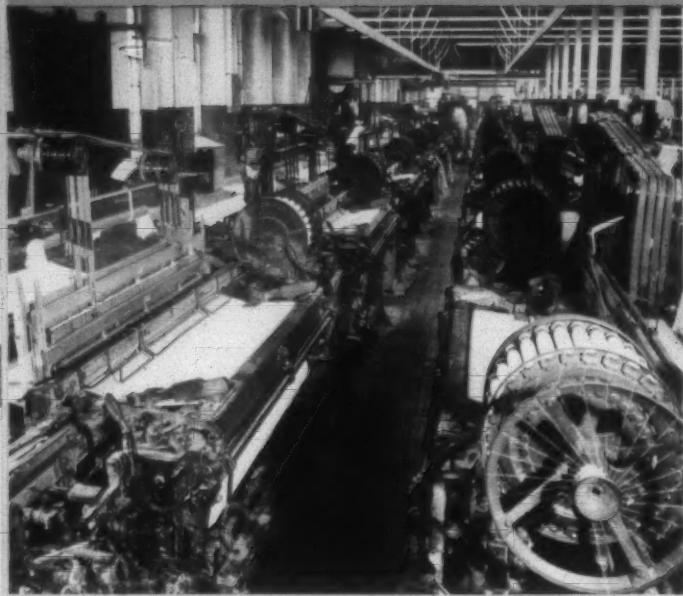
Pat. Pend.



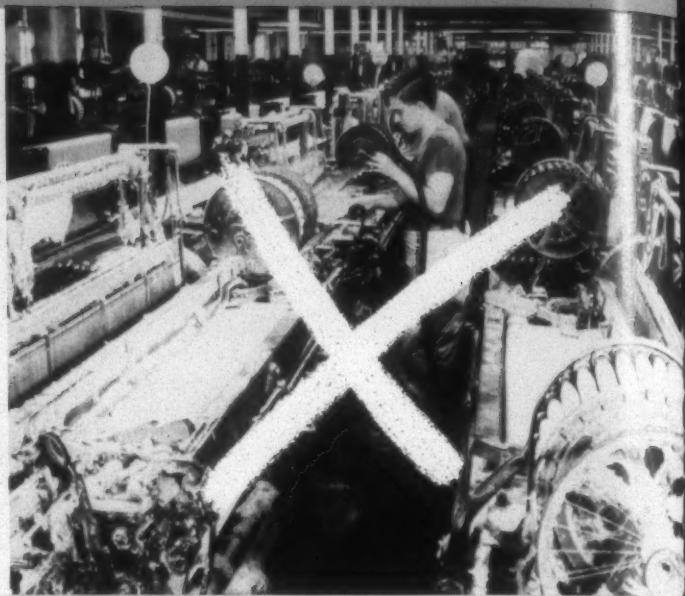
- Provides automatic, continuous cleaning of looms and ceiling
- Drastically cuts loom cleaning and loom maintenance costs
- Steps up production — looms need not be stopped for manual cleaning
- Improves quality of fabric
- Reduces fire hazard
- Improves weave room appearance
- Boosts employee morale
- Can be used in conjunction with beam handling equipment

Swiftly whirling outlet nozzles, driven by the air stream, direct the air jets at an acute angle in overlapping, circular paths. The result is a rapid series of high-velocity bursts of air over loom and warp surfaces for complete cleaning action. Supplementary air outlets clean overhead track and ceiling.

# AMCO Heliclone cleans automatically



**AUTOMATIC CLEANING** where overhead track brings full air sweep of loom cleaner to every loom on the floor without disrupting operation of the loom, keeping looms constantly free of accumulated waste.



**MANUAL CLEANING** of waste accumulation with air hose. This method, used by most mills, is very costly in terms of labor and is a constant source of accidents and cloth imperfections.

Tested and proven in mill after mill, the Amco Heliclone Loom Cleaner has brought conversion of entire mills to automatic loom cleaning. In the several plants already converted, Heliclones are a major factor in outstandingly high quality production.

Automatic cleaning eliminates end runs and floats, waste bunches, end breakage, overshots, broken picks, and oil spots caused by loose accumulated waste.

Heliclone Loom Cleaners are now cleaning the automatic looms which weave these important fabrics:

Broadcloth  
Colored Stripes  
Print cloth  
Twill  
Gingham

Typewriter cloth  
Synthetic blends  
Toweling  
Worsts

Looms which are now being cleaned automatically by Amco Heliclone Loom Cleaners:

Crompton and Knowles C-5  
Hunt Looms  
Stafford Looms  
Draper X-2, XD, K  
Warner and Swasey

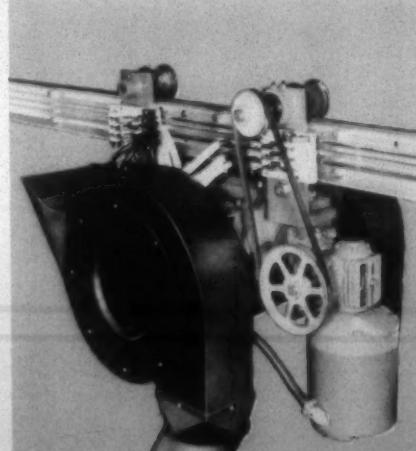


For winder cleaning . . . a unit similar to the Heliclone Loom Cleaner, with gentler cleaning action, is offered by Amco — the winder cleaner model. Here Schweiter-Whitin Filling Winders are being cleaned in Quiller room.

## AMCO AMERICAN MOISTENING COMPANY

*Makers of Air Conditioning Systems  
and Textile Mill Equipment  
Since 1888*

Home Office and Plant: Cleveland, N. C.  
Branches in Atlanta, Providence, Toronto



- All air handling passages and exterior of blower housing are fully coated with Teflon.
- Simplicity of design (minimum number of moving parts) insures long life and easy maintenance.
- Power is supplied to the unit by a safe 55 volts, utilizing Herco's simplified electrical system.
- Air stream is carefully controlled by circulating nozzles on sets of ball bearings of "self-lubricant" construction.
- Pitch of blade, responsible for "wind mill" rotation of the unit, can be adjusted to control speed.

*switch to*

# *Caro-Gant*

*...the original 100% active warp dressing*



Caro-Gant — tops in warp dressing — is a blend of specially processed fats, binding agents, penetrants and anti-mildew agents with absolutely no inert ingredients . . . every ounce of Caro-Gant works to make your warps stronger and more elastic, whether the weave is coarse or fine.

Caro-Gant disperses readily in hot starch solutions, contains no metallic chlorides and dissolves readily in kiering liquors or other boil-out mediums — giving you maximum economy, efficiency and quality.

Hart Products manufactures a wide range of textile chemicals for the textile industry.

Send for complete information on Caro-Gant and other Hartex products today.

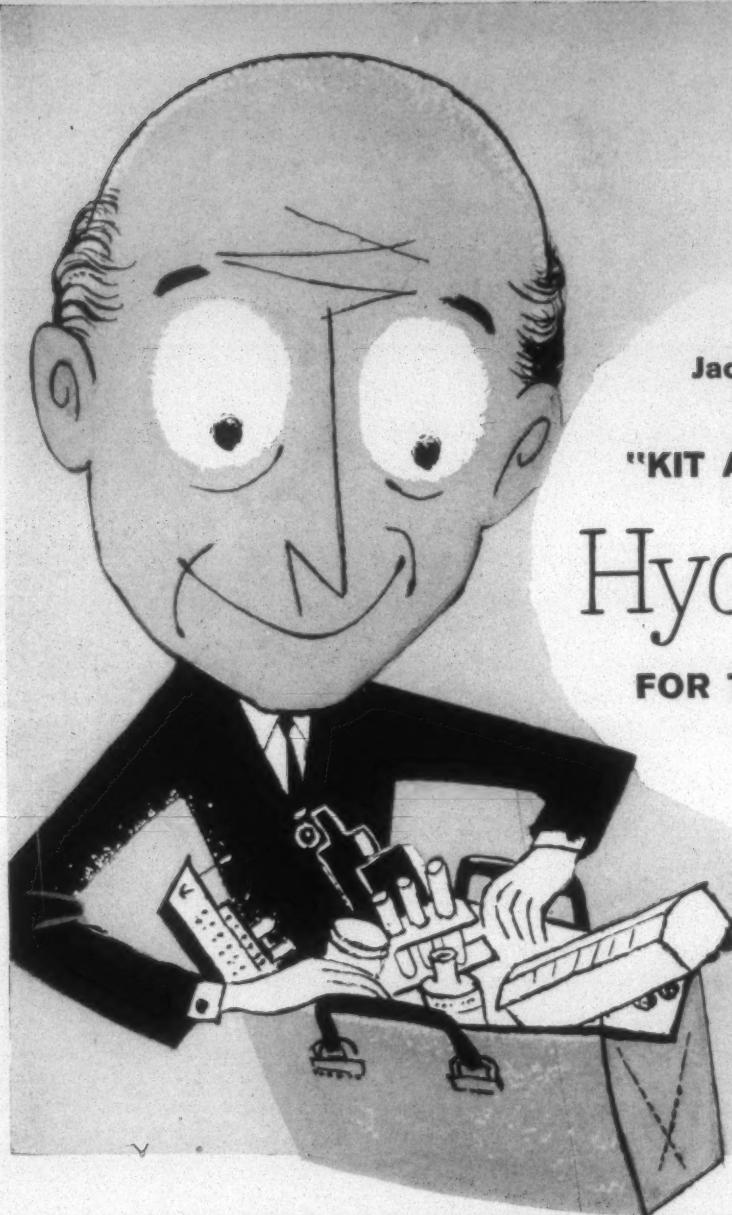
*the Hart Products Corporation*



1440 BROADWAY, NEW YORK 18, N. Y.

Works and Laboratories, Jersey City, N. J.

Hart Products Company of Canada, Ltd., Guelph, Ontario



Jacques Wolf Brings You  
THE WHOLE  
"KIT AND KABOODLE!" IN

# Hydrosulfites FOR TEXTILE PROCESSING

If it's hydrosulfites for textile processing—Jacques Wolf has everything but the kitchen sink! What's more, they're yours in whatever quantity you need—from test samples to truckloads! Specialists with over 40 years of experience in hydrosulfites offer you the most complete line of hydrosulfites anywhere! And one call can get you any or all when you contact Jacques Wolf & Co.!

**HYDROSULFITE OF SODA CONC. (Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub>)** a high assay, non-dusting reducing agent for vat dyeing. Pure, full strength Sodium Hydrosulfite for dyeing vat colors on cotton, rayon, other fabrics.

**HYDROSULFITE AWC (NaHSO<sub>2</sub> • CH<sub>2</sub>O • 2H<sub>2</sub>O)** for application and discharge printing. Highest strength of Sodium Formaldehyde Sulphoxylate. For application printing of vat colors and for discharge printing. Also used for stripping.

**HYDROZIN (Zn(HSO<sub>2</sub> • CH<sub>2</sub>O)<sub>2</sub>)**. Clear-dissolving, soluble Zinc Formaldehyde Sulphoxylate. For discharge printing on acetate dyed grounds. Also for stripping colors on wool, acetate, nylon.

**HYDROSULFITE BZ (Zn • OH • HSO<sub>2</sub> • CH<sub>2</sub>O)**. Zinc Formaldehyde Sulphoxylate used for stripping wool stock, Shoddy and rags.

**INDIGOLITE** discharge for indigo. Mixture of Leucotrope W and Hydrosulfite AWC in the proper proportions to give a white discharge on indigo-dyed grounds.

**LEUCOTROPE W (NaSO<sub>3</sub> • C<sub>6</sub>H<sub>4</sub> • N(CH<sub>3</sub>)<sub>2</sub>OH • CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub> • O<sub>3</sub>Na)** discharge for indigo. Sulphonated quaternary base. For pure white discharges on indigo-dyed grounds when mixed with Hydrosulfite AWC. Also for discharging vat-dyed grounds.

**LEUCOTROPE O** used with Hydrosulfite AWC to give an orange discharge on indigo-dyed grounds. Also for discharging vat-dyed grounds.

Write for Complete Data  
and Free Samples Today!

**JACQUES WOLF & CO.**  
*Chemicals* PASSAIC, N.J.



Plants in: CLIFTON, N.J., CARLSTADT, N.J., LOS ANGELES, CALIF.

*What more is there to say?*  
**...the customer is all ways right!**

GREEN RIVER MILLS, INC.

*Fine Combed Yarns*

GEORGE W. BOYS, PRES. & TREAS.  
 ERNEST M. BOYS, VICE PRES. & ASSY. TREAS.  
 H.A. GUSTAFSON, SECRETARY

TELEPHONE AND TELEGRAM OFFICE  
 HENDERSONVILLE, N.C.  
 TUXEDO, NORTH CAROLINA

February 5, 1958

Mr. Robert McConnell, Vice President  
 Whitin Machine Works  
 Whitinsville, Massachusetts

Dear Bob:  
 About a year ago we bought one of your AXI-FLO cleaners and wanted  
 you to know how pleased we are with this unit.

It is the best cleaner we have ever seen for an opening line in all  
 our experience.

We find this cleaner takes out from one to one and a half percent  
 in waste depending on the grade of cotton we are running and is equal  
 in cleaning capacity to all our other opening and picking machines  
 combined. Another factor we thought that might interest you is  
 that after our stock was put through this cleaner our comber waste  
 dropped one percent without any change in the settings.

This machine has improved the grade of our card strips and I would  
 say that a Mill could use at least one grade lower cotton and  
 still come up with the same quality in the finished yarn.

For the expense involved I do not know of any equipment that a  
 Cotton Mill can install that will pay back as quickly as the  
 AXI-FLO cleaner.

This cleaner is especially valuable because of the poor quality of  
 the American crop and I don't know what we would do without it.  
 With best regards, I remain

Yours very truly,  
 GREEN RIVER MILLS, INC.

*G.W. Boys.*

George W. Boys  
 President

GWB/sc

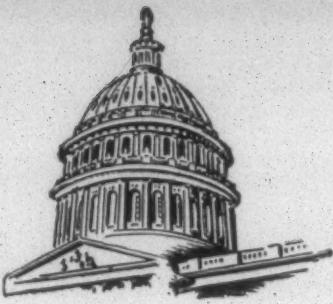
Write today for folder  
 giving complete details.

**WHITIN AXI-FLO®** has received similar  
 acceptance throughout the world. Mr. Boys' enthusiastic report  
 echoes those from scores of other customers who have dis-  
 covered that they, too, were *all ways* right when they installed  
 these outstanding cleaning units.



WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N.C. • GREENSBORO, N.C. • ATLANTA, GA. • SPARTANBURG, S.C. • DEXTER, ME.



# WATCHING

# WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

Extension of the Reciprocal Trade Agreements Act as a basis for foreign trade policy is bringing on a long and uncertain fight in Congress. Textile interests are joined with the chemical, oil, chinaware and other industries in making clear to Congress that the present act does not safeguard domestic industry from ruinous imports. Much of the unemployment of the business decline has been in the slow and continuing attrition and erosion of jobs as foreign products, especially Japanese textiles, have steadily poured into the country.

State Department officials, headed by Mr. Dulles, are emphatic in denials that manipulations in peril point and escape clause procedures have intensified the sweep of business recession. Yet W. J. Erwin of Dan River Mills, speaking for the American Cotton Manufacturers Institute, told the Ways and Means Committee that, in theory, prevention of excessive imports is assured by these procedures, and by Section 22 of the Agricultural Adjustment Act. But in practice, he said, there seems to be virtually no situation in which relief can be obtained.

The Reciprocal Trade Agreements Act is a before-the-war "vision" of the late Cordell Hull, around which have rallied all of the proponents of low tariffs and free trade. Curiously enough, labor unions with their constant demands for higher wages, have been among the loudest segments demanding continuation of the law as an instrument of foreign policy. Evidence shows that under bargaining practices of the State Department, unemployment in some industries has climbed to new levels, and some domestic industries have been all but extinguished.

However clear the law may be, Mr. Erwin told the committee, it has not been administered and has not worked out as expected. After weeks in getting an answer, he said, the Agriculture Department "had concluded import quotas on cotton products were not needed." Further appeals to the department were ignored, although Japanese imports were crippling textile firms in New England and undercutting mills in the South. State Department "bargaining power" was found to be untouchable, even in the face of disaster in a domestic industry.

Conflict between agricultural policies and foreign trade policies have raged continuously, it is shown, with domestic industries unwilling captive victims. Government-held cotton has been sold for export at 20 per cent below prices for the same product paid by domestic mills. The same cotton has been allowed to come back as a finished product without an offsetting excise tax to protect the home industry. On Sept. 10, 1955, tariff rates on many of these products were cut under the trade agreements program by as much as 50 per cent.

Important data relating to decisions of the Tariff Commission has been withheld from the public, with domestic industries operating in a vacuum. "We know the peril points determined by the Commission were not reached," Mr. Erwin said, "for the President would have had to announce that fact. He never did. But they had already been breached in effect by cost inflation here, coupled with post-war rebuilding and modernization of Japanese textile mills."

Mr. Erwin strongly urged the Ways and Means Committee to report the textile protection bill (H.R. 11250) of Bryan Dorn (D., S. C.) to the House. "In our opinion," he said, "this is the only reciprocal trade bill before Congress. "It creates a favorable climate for reciprocal two-way world trade. It guarantees



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1926

"IF IT'S PAPER"

1958

a review of agreements and means to determine threats of injury to domestic industry. It provides means for meeting these threats before workers are laid off."

Textile interests of New England and the Atlantic States joined in opposing extension of the act in its present form. W. J. Sullivan, for the Northern Textile Association, said "duties on textiles have been reduced to a point that does not afford protection to jobs or to investment in industry." The law does not provide now for setting up adequate tariffs and quotas where direly needed, or for working out voluntary quota plans with other countries and enforcing them.

New England's industrial problem is in its continuing difficulty in adjusting to textile employment losses, the Federal Reserve Bank of Boston finds. It notes the region has lost 300,000 textile jobs since 1919, and since factories provide 40 per cent of the region's income, against 32 per cent for the nation, "the situation requires serious consideration." While attrition of the textile business has produced the largest decline, still employment in ten years has grown by only 6.7 per cent against a gain of 13.6 per cent for the nation. The bank asks for a management survey of each plant, and adoption of uniform plans for recovery.

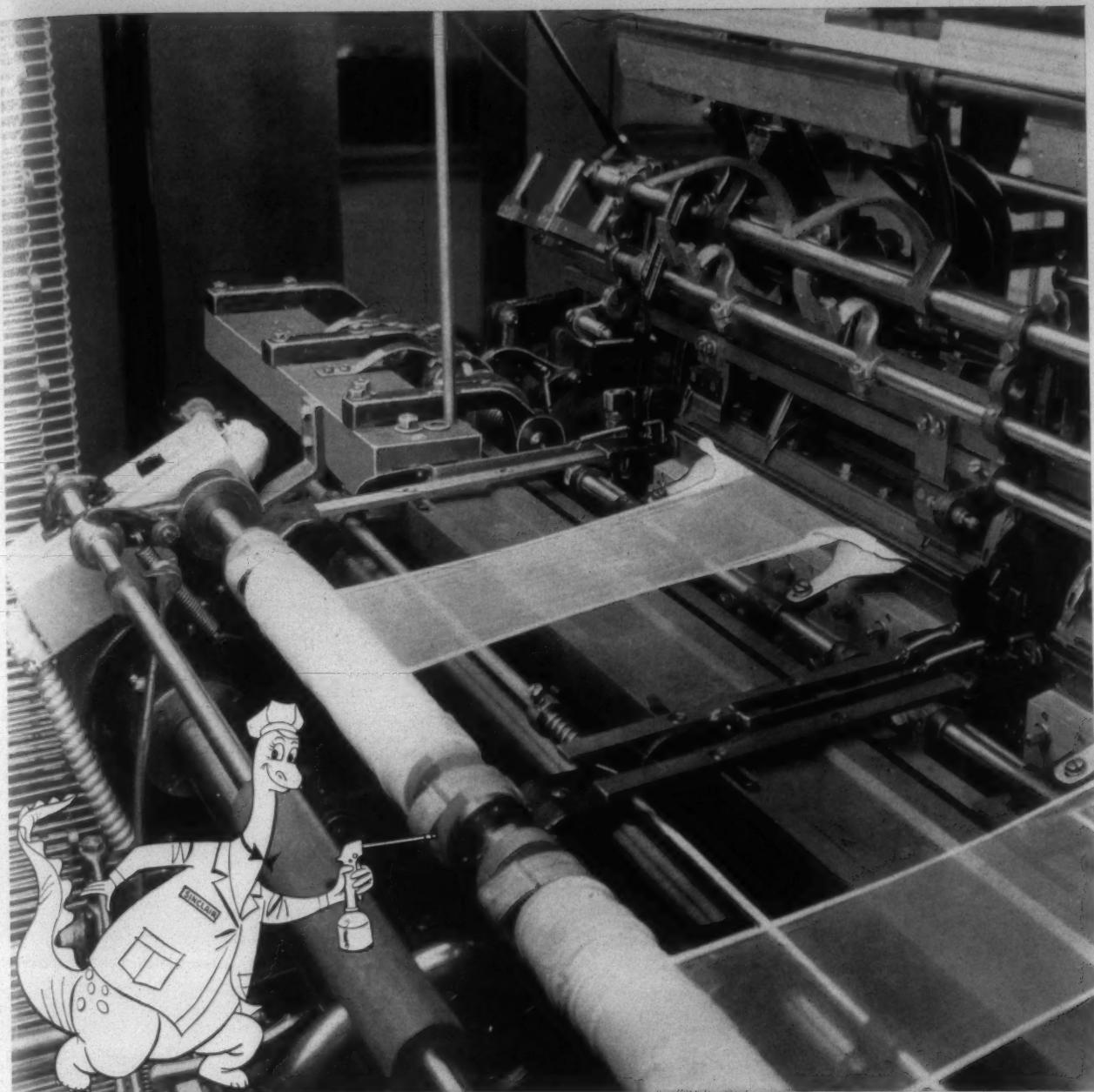
Study of the grass roots during Easter is deciding the recession-relief legislation that will be passed in this session of Congress. Belief is widespread that the downward cycle will continue until far in the year, and measures to loosen credit and promote employment must be passed. Government contracts will be concentrated on areas with high unemployment. Cities and states are encouraged to launch public works projects. Cuts in Federal tax rates will be vigorously opposed by the Administration.

If recession deepens and unemployment grows as Summer approaches, the President will be faced by a runaway Congress on relief measures. Foreign aid proposals will be cut drastically or eliminated, and a sweeping pump priming, credit relief and public works program will be enacted, with or without Presidential approval. A program of loans and grants to cities and states for launching public works projects will probably be included. The President's budget proposals are being changed in appropriation bills, with more emphasis on items that may bring some relief to the economy.

The first anti-recession legislation passed by the Senate was an emergency housing bill of \$1.8 billion. Claim is the bill will promote building 200,000 more dwellings this year. It provides for lower down payments, and added funds for veterans and military housing, with an increase in interest to 4 3/4 per cent from 4 1/2 per cent. In February \$3.1 billion in new construction was contracted, setting an all-time record for any February.

Proponents of foreign aid who are seeking its continuance are making little impression on members of Congress who have studied aid spending on the spot. A formidable case against continuance is being made, especially in respect to foreign industries that have been set up and equipped to pour cheaply-made products into this country in competition with American production. Eyes of many House members have been opened by travel experience; while aid may be desirable in some cases, it is described as more often a bribe to puppet regimes.

The threat that a general automobile strike this year would be a spark plug to an epidemic of strikes is evaporating under changed economic conditions. Auto worker officials are seeking to settle with managements for a slender package that will carry a small wage increase and more unemployment benefits. With new car production down to 65,000 units a week, and 880,000 new cars on dealers' floors on April 1, auto union officials were urged by other union officials not to allow the wage controversy to reach a strike stage. The outcome may be the turning point in the fight against rising prices.



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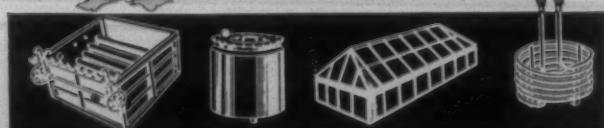
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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable

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## Long Due Relief

BOTH the Carolinas have in recent months taken a long hard look at corporate tax structures and done some overhauling. This has been done with a view not only toward attracting new industry but also toward making the tax burden more equitable for the older, established industries.

The development is significant, not alone from the standpoint of bringing the positions of the states more in line competitively with those of the other commonwealths in the bid for industry, but also from the standpoint of affording a more favorable climate for the growth and expansion of the existing large domestic corporations which hitherto have largely been overlooked in the pell-mell regional scramble to attract new payrolls.

The complexities arising from multi-state operations and the manufacture of a variety of products by a single large corporation are part of the ever-changing business scene in America. What the Carolinas—first North Carolina, and now South Carolina—have done is to minimize such complexities insofar as income tax is concerned. The updating of the tax formulas, originally set up to meet the conditions of a horse and buggy economy, provide more flexible methods to meet the varying and individual requirements of today's industry. It goes without saying that any short-term loss will become the long-term gain. Such a precept, in fact, clearly recognized by those who have drawn up the new policies and new structures, is already proving beneficial to the economic climate, particularly in North Carolina where there has been time enough for the impact to be felt.

The movement in North Carolina, it is worthwhile noting, was spearheaded by Gov. Luther Hodges, a retired textile executive (Fieldcrest Mills). For years the belief somehow had seemed to be ingrained in North Carolinians that the state's tax structure—state and local—was not at a disadvantage in competing with other Southern states for new industry. But the State Tax Study Commission pre-

sented entirely different data showing that among Southeastern states North Carolina appeared to levy the highest or nearly the highest state and local tax burden upon manufacturing corporations.

Basically, the change they proposed and which the legislature accepted simply adds a third element to the formula by which the state figures the taxable income of a North Carolina corporation doing business in many states. That formula, until the revision, took into account only the percentage of the company's property and payroll which are located in North Carolina. The new factor includes sales made in North Carolina in ratio to the total sales of the company. The effect is to tax a North Carolina company on income earned only in North Carolina, not in all other states which do not themselves levy an income tax. Of the 12 industrial states which now tax the income of a corporation, North Carolina was the only one whose tax formula did not include the sales factor.

Already North Carolina has seen the change apparently bear fruit. Right off, for instance, Allied-Kinnecott announced tentative plans to build a \$40 million titanium plant at Wilmington. One of the state's largest home-owned corporations, R. J. Reynolds Tobacco Co., revealed plans for a \$35 million plant at Winston-Salem. Another home-based corporation, Cone Mills of Greensboro, which had been planning for several years to forego its North Carolina charter, abandoned these plans. Both corporations said their decisions were based on the tax law changes and that there was no question about the old North Carolina tax formula having been inequitable to domestic corporations.

It is true, of course, that some parts of the nation appear willing to offer the shirt off their back to lure a new industry within their borders. In this respect, however justified, such plans often have come in for criticism. A notable example, of course, has been Mississippi's B.A.W.I., or Balance Agriculture With Industry Plan which involves building and leasing of industrial plants—tax-free, and financed by tax-free bond issues. Mississippi, incidentally,

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## EDITORIALS

is the least industrialized of all states, and criticism of B.A.W.I. has come in large part from neighboring states in the South having a considerably larger ratio of industrialization.

The pitch in the Carolinas has been that the objectives of more equitable tax schedules is not to attract just any industry, or an industry at any price, but rather to make a realistic appraisal of corporate tax structures in relation to the needs and problems of expanding industry, from the standpoint of both "foreign" and "domestic" corporations.

Moves by the legislature in South Carolina this Spring have been, by and large, to approve new corporate income tax legislation to place the state on a more competitive footing with other states in the same region. The new South Carolina legislation, however, does not take effect until 1960. One of the principal changes in South Carolina provides alternate formulas for foreign corporations in computing the state income tax. The other would abolish a mandatory formula for domestic firms. Supporting these two major measures are three lesser ones. One requires publication of tax commission regulations; another calls for advance rulings on tax liabilities for new and expanded firms. Under still another, the tax study committee which drew up the proposed changes is made a continuing body.

Effective date of the foreign corporate tax options was delayed for two years because it was felt that the state could not take a chance on absorbing immediately any reduction the new schedule might cause in the \$17,000,000 a year the state now collects in corporate income taxes. It is anticipated, however, that any loss sustained in 1960 will be offset by taxes paid by additional industries the tax changes will attract.

There is no change in South Carolina's corporate income tax rate. Currently, however, a foreign corporation is taxed on the basis of a ratio between a manufacturer's property values in the state and his entire holdings plus another ratio between production in the state and total production. The relative figures are added together and divided by two. The result is a percentage factor which determines how big a slice of corporate profits South Carolina will tax. To this, the state applies a five per cent levy. In this business age, many companies invest a very large share of their overhead in sales and distribution, so the new law injects a third factor—sales ratio—into the formula for computing foreign corporation taxes.

Non-domestic corporations will have a choice of using the two-factor or three-factor formulas. The new law relieves them of compulsory payment of the higher of two methods of computation, and instead they can use a simple application of the tax rate on net income. These changes in state corporate tax structures are, of course, much-needed reforms. The next important step, it is steadily coming to be realized, is the equalization or attainment of uniformity of local property tax valuations. Some few moves have already been made in this direction, but the big part of the job still lies ahead.

## A Fortunate Denouement

HISTORICALLY it has been more than abundantly clear that the South—and particularly what is known as the textile South—doesn't go in very much for the blandishments of unionism or organized labor. And from the beginning it has been equally obvious that the good people of Darlington, S. C., regretted no end the unfortunate circumstances which catapulted the so-called "pearl

## TEXTILE INDUSTRY SCHEDULE

### —1958—

Apr. 23-25 (W-F)—Annual meeting, **COTTON MANUFACTURERS ASSOCIATION OF GEORGIA**, Boca Raton Hotel, Boca Raton, Fla.

Apr. 24-26 (Th-Sa)—55th annual convention, **PHI PSI FRATERNITY**, Ben Franklin Hotel, Philadelphia, Pa.

Apr. 24-26 (Th-Sa)—National convention, **DELTA KAPPA PHI FRATERNITY**, The New Bedford Hotel, New Bedford, Mass.

Apr. 25-26 (F-Sa)—Spring meeting, **PIEDMONT SECTION, A.A.T.C.C.**, Washington Duke Hotel, Durham, N. C.

Apr. 29-30 (Tu-W)—Spring meeting, Technical Advisory Committee and Board of Trustees, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.

Apr. 30-May 1 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, The Clemson House, Clemson, S. C.

May 3 (Sa)—Spring meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Alabama Polytechnic Institute, Auburn, Ala.

May 6-7 (Tu-W)—**TEXTILE MARKET RESEARCH CONFERENCE**, Hotel Statler, New York, N. Y.

May 7 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

May 15-17 (Th-Sa)—Annual outing, **CAROLINA YARN ASSOCIATION**, Pinehurst, N. C.

May 19-24 (M-Sa)—**NATIONAL COTTON WEEK**, sponsored by the National Cotton Council of America.

May 26-29 (M-Th)—**NATIONAL PACKAGING CONFERENCE AND EXPOSITION** (sponsored by American Management Assn.), New York Coliseum, New York City.

May 29-31 (Th-Sa)—Annual meeting, **SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, The Cloister, Sea Island, Ga.

May 30-31 (F-Sa)—Annual meeting, Cotton Buyers and Classers Division, **NORTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, Grove Park Inn, Asheville, N. C.

June 4 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

June 6-7 (F-Sa)—Annual outing, **SOUTHEASTERN SECTION, A.A.T.C.C.**, Radium Springs, Ga.

June 19-21 (Th-Sa)—Annual convention, **SOUTHERN TEXTILE ASSN.**, The Grove Park Inn, Asheville, N. C.

June 22-27 (Su-F)—61st annual meeting, **AMERICAN SOCIETY FOR TESTING MATERIALS**, Hotel Statler, Boston, Mass.

Sept. 9-10 (Tu-W)—Fall meeting, **THE FIBER SOCIETY**, Montreal, Canada.

Sept. 11-12 (Th-F)—Annual meeting, **COMBED YARN SPINNERS ASSOCIATION**, The Cloister, Sea Island, Ga.

Sept. 25-26 (Th-F)—Fall meeting, **TEXTILE QUALITY CONTROL ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Oct. 1-2 (W-Th)—Seventh annual **CHEMICAL FINISHING CONFERENCE** (sponsored by the National Cotton Council), Washington, D. C.

Oct. 6-10 (M-F)—**SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 9-10 (Th-F)—Annual meeting, **NORTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, Carolina Hotel, Pinehurst, N. C.

Oct. 14-17 (Tu-F)—Fall meeting, **A.S.T.M. COMMITTEE D-13 ON TEXTILES**, Sheraton-McAlpin Hotel, New York City.

Oct. 23-24 (Th-F)—Fall meeting, **SOUTHERN TEXTILE METHODS AND STANDARDS ASSOCIATION**, The Clemson House, Clemson, S. C.

Oct. 25 (Sa)—Fall meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Alabama Polytechnic Institute, Auburn, Ala.

Oct. 30-Nov. 1 (Th-Sa)—National convention, **AMERICAN ASSN. OF TEXTILE CHEMISTS & COLORISTS**, Conrad Hilton Hotel, Chicago, Ill.

Nov. 7-8 (F-Sa)—**TEXTILE SEMINAR** (sponsored by the University of Georgia Division of Clothing and Textiles in Extension, Teaching, Research), Georgia Center for Continuing Education, Athens, Ga.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

the Pee Dee" into the vortex of a sort of labor *cause célèbre*. They made it very plain they would have much preferred the whole mess to be forgotten, rather than to be the cause of what seems to be interminable litigation of a quasi-judicial nature, for this tended inevitably to carry the connotation that the community was a "bad" labor town—which, they insisted with justification, it really wasn't.

And more than anything else, the people of Darlington wanted an industry to replace the one which they lost—in the old Darlington Mfg. Co., a cotton spinning and weaving mill with 523 employees and a weekly payroll in excess of \$33,000. The cotton mill had been the principal source of manufacturing employment in the town of 7,000 population for nearly three-quarters of a century and the decision of management to liquidate the mill and sell its assets at public auction was a severe blow to the economy of the community and the area.

The details of the case are easily recalled. Just a few days after Labor Day in 1956, the employees of Darlington Mfg. Co. voted to organize by the slimmest of margins and those votes which seemingly spelled a victory for the formerly C.I.O. Textile Workers of America were contested. Subsequently a meeting of stockholders voted to liquidate the operation. On October 27 most of the employees, save for a skeleton crew, drew their last paychecks.

Two weeks before Christmas of 1956, the mill went on the auction block and was sold piecemeal. The spinning frames and looms were bought by the highest bidders and became scattered to the four winds; and within a few days the once throbbing plant stood gaunt and deserted. The Darlington Mfg. Co., in effect, no longer existed. The lawyers for the T.W.U.A. contended, of course, that the only reason the company was liquidated was to escape dealing with the union.

Gradually, Darlington began to recover in an economic sense. Rather surprisingly, in less than a year's time, the town bounced back rather considerably. Of course there was some bitterness, but the loss of the cotton mill was hardly regarded as the calamity it was thought to be in the beginning. Milliken Street in Darlington was renamed Buchanan Street for Mayor T. W. Buchanan, a wheelhorse in the drive to obtain new industry for the stricken community. The mayor operates a jewelry store on the town square. A few months after the liquidation of the mill, a mayor's office, next to the jewelry store, was established. Chamber of Commerce membership shot skyward. There was organized a 27-man County Research, Planning and Development Board that hadn't even existed before.

Expansion of a paper cup plant, another large local industry, alone absorbed more than 150 of the displaced employees. A few smaller businesses and industries, some of them new, provided jobs for another 100. Others found employment in surrounding areas. The liquidation of the cotton mill hurt, quite naturally; but conditions were never as bad as it was at first feared they would be. In fact, Roger Milliken, president of the now defunct Darlington Mfg. Co. and president also of Roger, Milliken & Co., remarked at the time that the whole experience might actually turn out to be the best thing that ever happened to Darlington.

Now such has seemed to come to pass. A new industry is moving into Darlington and bringing with it ultimately 1,200 jobs and an annual payroll of \$4 million. The Pyramid Electric Co. of New Jersey, one of the country's largest producers of electronics parts, with government and civilian

contracts amounting to \$10 to \$12 million a year, is moving in to occupy the plant of the defunct Darlington Mfg. Co. about June 1.

The turn of the wheel of good fortune for the city of Darlington seems to make the continued litigation pursued by the T.W.U.A. even more anti-climactic than ever. Many months ago the trial examiner for the N.L.R.B., in effect, ruled that Darlington Mfg. Co. was liquidated to avoid dealing with a union, but at the same time he commented that there was no basis for fixing any amounts of back pay, since the company is not only no longer existent but the plant has been dismantled and sold.

The union, however, appealed the trial examiner's ruling to the full N.L.R.B., contending that the only effective and meaningful remedy was to reopen the plant and require the defunct mill to reinstate the workers. In its appeal, the T.W.U.A. also renewed its argument that the Darlington company was a unit of the Deering, Milliken chain. The N.L.R.B. general counsel, at the trial examiner's hearing, did not make Deering, Milliken & Co. a defendant in the case. Deering, Milliken operations once were almost entirely in New England. Now these plants are concentrated almost entirely in the Carolinas and Georgia. No unit or plant in the group for which Deering, Milliken & Co. acts as the selling agent is organized. A few years ago a Deering, Milliken woolen mill in New England was unionized and subsequently it was liquidated, as have been a number of other woolen mill operations in New England.

The full hearing before N.L.R.B. on union charges of unfair labor practices against Darlington Mfg. Co., originally scheduled for April 8, has been deferred until May 20. This hearing is to determine whether interests other than Darlington Mfg. Co.—i.e., Deering, Milliken & Co.—should be made a party to the charges. The union's amended complaint states that Roger Milliken is and has been not only president and chairman of the board of Darlington Mfg. Co. but at the same time has been chairman of the board of Deering, Milliken Co., which served as the Darlington company's factoring agent and which is still in business. The union, in a word, alleges that Deering, Milliken had a part in the decision to close the Darlington plant.

There is, of course, no inclination on our part to argue with any decision of a quasi-judicial agency such as the N.L.R.B., but nevertheless it is a matter of record that Roger Milliken, shortly after the decision to liquidate the Darlington company, said in a statement that the whole operation was not a proper return on the investment and conceded that the vote for unionization may have been a factor in the decision, but merely *one* of the factors in the over-all picture. It is also a matter of record that a number of other cotton mills, in the Carolinas and elsewhere in the South, have been liquidated by their owners, both prior to and after the Darlington case, wherein unionization or prospective unionization apparently had no bearing whatsoever in the matter.

Darlington, quite obviously and quite naturally, wants to forget the unfortunate circumstances which preceded the closing of the Darlington Mfg. Co.; and developments increasingly make it apparent that the T.W.U.A., at a time when unionism's esteem in the public mind is certainly at its lowest in recent times, persists in trying to make a mountain out of what, to be most generous, could certainly be called no more than a molehill.

# For The Textile Industry's Use

## — NEW MACHINERY, EQUIPMENT AND SUPPLIES —

### Spinning Frame

Further information has been released by the Roberts Co. on its Roberts M-1 spinning frame. Important refinements have been added to the frame in the past six months, according to the company. New features include:

(1) An improved creeling arrangement providing designs to handle up to 10x5 double roving on frames of gauges 3½" and up. On single creel roving, 12x7 single can be handled on gauges 3" and up.

(2) An improved and simplified ball bearing top roll suspension is now standard in one of two styles, either with a front-line ball bearing suspension, eliminating

cap bars on the front line, or with a three-line ball bearing suspension, eliminating all cap bars.

(3) Roll stand angle has been revised to 45°, giving a position for an improved yarn tension arrangement.

(4) A simple and effective balloon control device is now standard equipment. The balloon rings are traversed independently of the ring rail or thread guide, which provides effective placement of the balloon control ring at any given position of the build. When the bobbins are full, rings are dropped by a simple gear-driven device for doffing. Short separators are employed which are not in the way during doffing.

(5) The undercarriage and builder motion have been strengthened and simplified and ball bearings have been incorporated at all points. Cross shaft hangers are equipped with ball bearings. Cross shafts are made of steel, and all arms are broached for close fit, so that all play has been removed from the builder motion linkages. Counter balance springs are employed and replace most of the dead weights formerly used. The resultant smoothly operating arrangement for the build permits using filling winds even when the spinning bobbin will be processed next on a high speed spooler.

(6) Ball bearing spindles requiring no lubrication are standard equipment and can be provided for either wood bobbins or paper tubes of many sizes. A simple finger brake is also available.

(7) Either a 9" individual pulley or an 8" cylinder can be supplied, which provides for a lower cylinder speed and reduced horsepower consumption.

(8) A totally enclosed ball bearing motor can now be mounted under the frame end, providing extra room at the end of the frame. Air cooling the motor is directed down the length of the frame so that hot spots in the room are eliminated. A special combination starter is also supplied which provides an interlock device so that the main driving motor cannot run unless the suction cleaning motor is on.

(9) Gears of 20° pressure angle are used throughout the frame, and all gears in the head use one pitch bore, width and keyway size. One wrench size is all that is required for removing any gear or chain sprocket from the head. A one-shot oiling system is standard as well as automatic power knock-off when the head door is open.

The Roberts M-1 spinning frame is available in the space-saving 25" width and also in conventional 36" and 39" widths.

(Request Item No. D-1)

### Cotton Cleaning Unit

A new cleaning unit which can be added to its No. 11 dust and waste extractor has been developed by Saco-Lowell Shops. The new unit is said to provide extra cleaning without subjecting the stock to any additional beating. Consequently, the company says, there is no added fiber breakage or increase in neps.

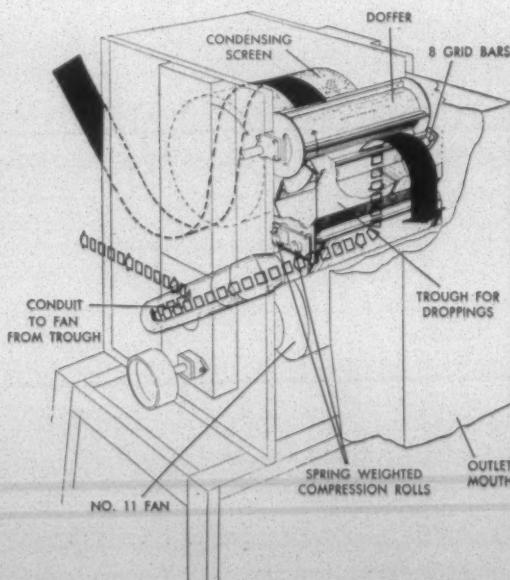
The amount of trash removed by the unit is approximately equal to one-third the amount of waste removed by any unit in the opening line, Saco-Lowell reports. Most of the waste is composed of motes, stem, leaf, boll and seed fragments, and other impurities.

When installing the new cleaner, the direction of the doffer on the No. 11 condenser is reversed so that it conveys the cotton with a downstroke motion. To do this, the belt driving the doffer is crossed. Eight adjustable grid bars are placed under

the reversed doffer in the path of the cotton. The action of the doffer further opens the stock, the company reports, and in moving the cotton over the grid bars causes trash, dirt and other waste particles to be separated from the stock. A pair of spring-weighted compression rolls at the bottom of the unit forms an air seal and passes the waste droppings into an air stream. The air stream transports the droppings through a conduit to the No. 11 fan, where they are combined with the regular dust from the condensing screen.

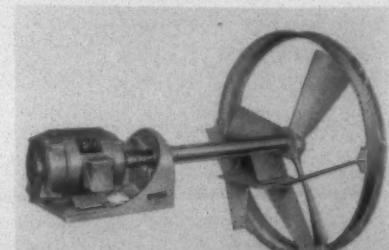
The unit can be applied to both floor and ceiling-mounted No. 11 dust and waste extractors, the company reports. It can be installed without the automatic feature, in which case the box must be manually emptied on a periodic basis. Saco-Lowell reports that the new cleaner can be easily and inexpensively applied as a feeding unit for any opening equipment, with the exception of the No. 16 opener.

(Request Item No. D-2)



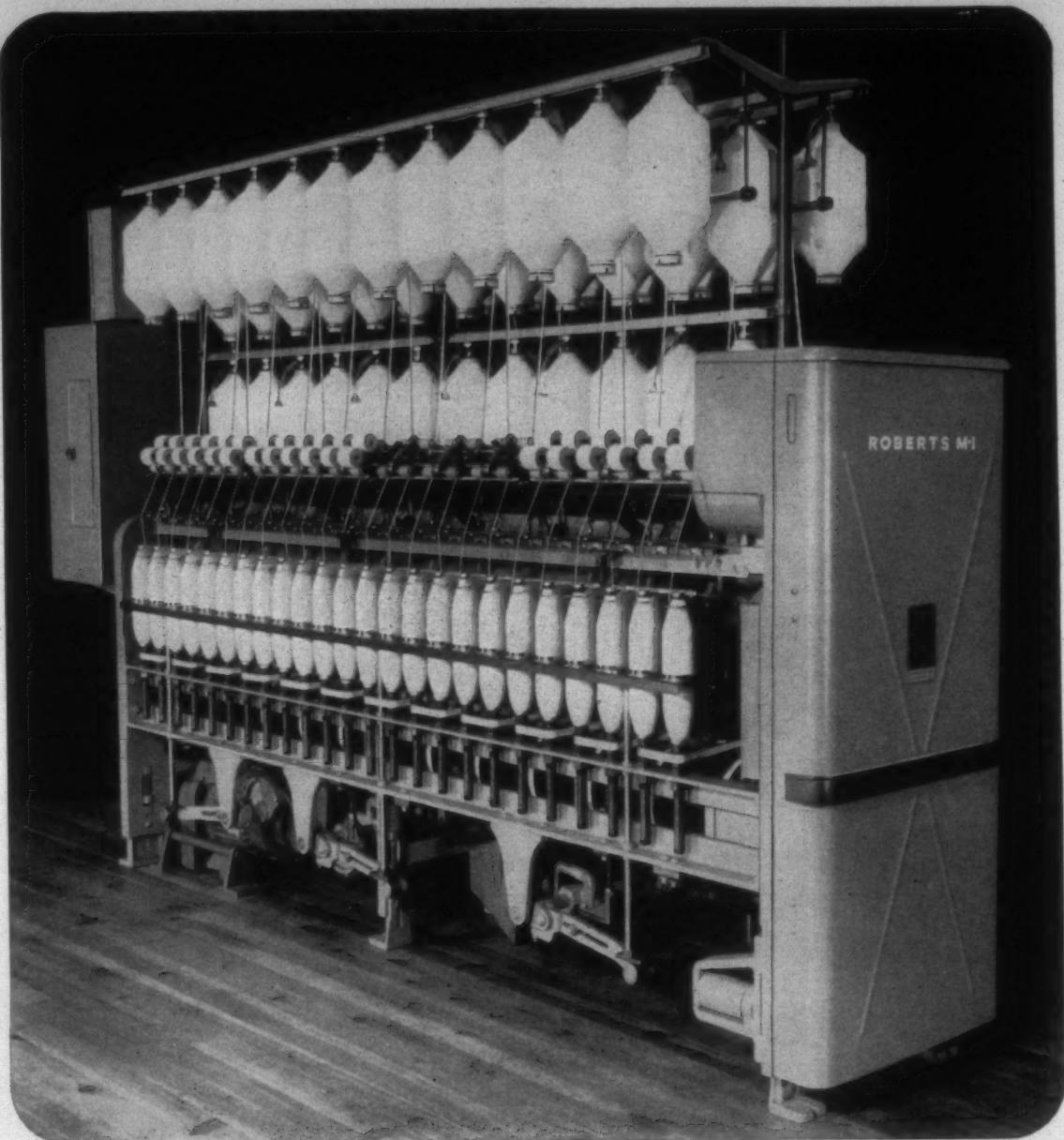
This perspective view of Saco-Lowell's new automatic cleaning unit shows the passage of stock and droppings through the No. 11 Condenser. All waste droppings are automatically carried away. Movement of stock is indicated by a solid line; droppings by a broken line.

### Extension Shaft Fans



Type CE axial flow extension shaft fan (Robbins & Myers Inc.)

The Propellair Division of Robbins & Myers Inc. has introduced a new line of axial flow extension shaft fans designed



# ROBERTS SPINNING

**ALL NEW—ALL BALL BEARING ROBERTS M-1 SPINNING FRAME**

The benefits of **BIG PACKAGE SPINNING** are available  
**AT \$32 TO \$40 PER SPINDLE INSTALLED**  
in your mill, depending on gauge and frame lengths. These  
frames produce better yarns at higher front roll speeds and  
put more ounces of yarn on the bobbin.

More than 250 Roberts  
narrow frames have been  
installed in mills during the  
past eighteen months.

**ROBERTS COMPANY**

SANFORD, NORTH CAROLINA

#### FOR THE TEXTILE INDUSTRY'S USE—

for exhausting contaminated fumes from hoods or tanks, spray booth exhaust, oven recirculation and other installations requiring isolation of the fan motor from the air stream. For corrosive exhaust, special corrosion resistant coatings for the fan and the extension tube are factory applied when specified.

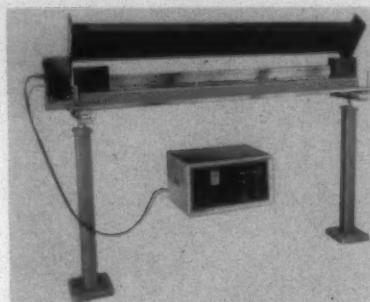
Designated as Type CE, Propellair's new fans are non-overloading and are thus suitable for use over a wide operating range from free air to  $1\frac{1}{2}$ " static pressure. Propellers, available in various multi-blade designs, are modern airfoil type made of cast aluminum-magnesium alloy and are carefully balanced for peak efficiency, according to the company. Propellair reports that the drive shaft and bearing assemblies are oversized for long life. Bearings are sealed (but lubricable if desired) and pre-lubricated with high temperature silicone grease. Heavy duty flexible couplings are used. These couplings require no lubrication, it is reported, since the load is entirely transmitted by compression of a flexible cushion, thus eliminating wear.

Motors are made by Robbins & Myers and expressly designed for Propellair fans. All metal parts are coated with a corrosion inhibiting compound. Windings receive two dips and bakes, according to the firm, plus a final coating of sealer. All motors are said to be equipped with oversize, pre-lubricated, sealed ball bearings, and to be

cradled in a heavy base to maintain proper fan alignment.

Available in nine diameters to 60", the new fans have certified air deliveries to 79,000 c.f.m. A wide selection of extension shaft lengths ranging from 16 to 66" is available. (Request Item No. D-3)

#### Spun Yarn Inspector



The Lindly inspector for spun yarn (Lindly & Co. Inc.)

The Lindly inspector for spun yarn is an instrument for controlling the quality of spun worsted, wool, cotton, synthetic and blended yarns. Lindly & Co., manufacturer of the device, reports that it may also be used for the same purpose on multi-filament synthetics but not on nubby or irregular types. When used in conjunction with the warping operation the unit is designed to stop the warper when defects

such as slubs, neps, fly and double end in the yarn occur. The removal of these defects, according to Lindly, can result in great savings in the subsequent burling, mending and sewing of the cloth. In the case of fine worsteds and other fabrics that are almost impossible to burl and mend or for materials where it is too costly such as some synthetic and cotton fabrics, the application of the unit is said to result in a considerable improvement in quality. Other processes such as simplex knitting and fine cotton weaving are also said to be aided by the use of inspected warps.

The benefits of increased quality, lower burling and mending costs and less loom and knitter down-time are all obtained at the expense of only a slightly increased warping cost, according to the company. The Lindly inspector for spun yarns has a specially designed electronic control unit which can pass knots, neps and other irregularities which are too small in size or length to justify counting or removal from the yarn, yet at the same time can catch objectionable defects. This is made possible by the use of a double dial control, one for length and the other for size or diameter of defect. A setting may be made to pick up a defect of any length greater than the chosen one which can be between zero and several feet long and for any size defect greater than the chosen one which can have a magnitude between that of a single filament and a sizeable slub. In inspecting spun yarns in this manner the single bar Model C-1 unit is used so that the yarn sheet is located just below the light beam and only the defect protrudes into the beam to trigger the electronic control unit. The function of the single guide bar of the C-1 model is to force most of the bulk of the defect upward and into the beam of light.

The inspection unit, available only in Model C-1, may be obtained for standard warp widths of 8, 21, 36, 42, 54, 72, 84 and 90", and with either a matte finish hard chrome or Alsimag No. 193 ceramic guide bar. Since the electronic control unit is equipped with a separate counter for size and length defects, a count of each type is obtained. The unit can be adapted also for use in inspecting tire cord yarn for strip-backs, fluff balls and broken filaments, at high speed. It is applicable to any type and denier of tire cord yarn, Lindly reports. (Request Item No. D-4)

## DAVIS & FURBER relies upon Diamond Finish

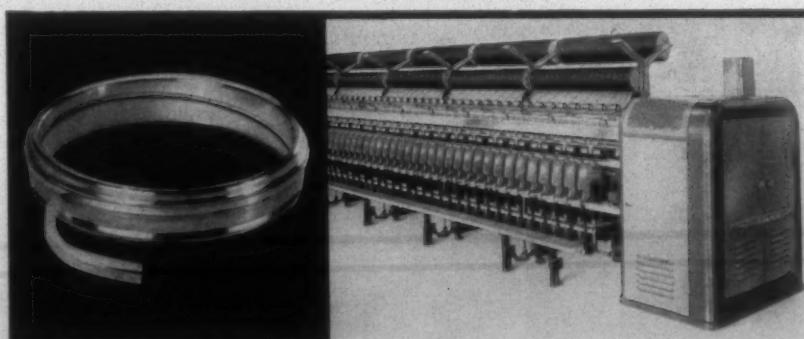
Most Davis & Furber frames are equipped with DIAMOND FINISH Eadie or 1-spot rings because DIAMOND FINISH quality is consistent with the qualities built into D & F frames:

1. Long life.
2. Superior lubrication system.
3. Minimum ends down.

### WHITINSVILLE SPINNING RING CO.

Makers of Spinning and Twister Rings since 1873

Whitinsville, Mass.



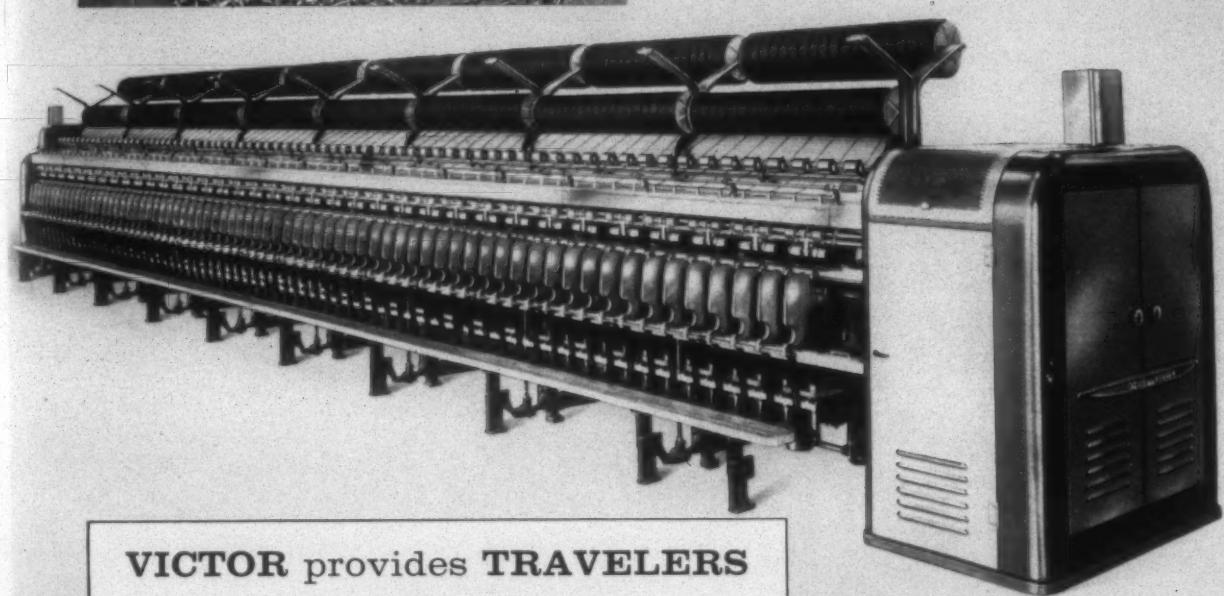
#### Cibacron Black

Cibacron Black BG is the newest member of the Ciba Co.'s Cibacron group of dyes. Cibacron Black BG combines a good neutral black shade with the many advantages of fiber-reactive dyes, according to the company. It supplements the bright color range of the Cibacron dyes with a clean black shade having the same general dyeing and fastness properties, extending the designing possibilities offered by this group of dyes.

Cibacron Black BG is said to offer the simple application and superior fastness properties that are associated with the Cibacron name for printing and dyeing cotton and rayon. Ciba reports that the



Keeping pace with  
every development  
in spinning progress



**VICTOR** provides **TRAVELERS**  
exactly matched to the  
"Coordinated Production" of modern  
**DAVIS & FURBER**  
**Woolen Ring Spinning Frames**

Davis & Furber can readily demonstrate the advantages of "coordinated production" — *increased output of higher quality yarns*. As a further assurance of maximum benefits, Victor specialists have cooperated fully in developing travelers exactly matched to the production potential of the frames.

These Victor vertical travelers, in the various types and sizes required, meet the most severe performance

demands in running wool or blended stocks of every grade and variety. Their proved efficiency makes them first choice for operating economy.

As leading traveler specialists, Victor regularly cooperates with all manufacturers, devoting its experience and abilities to the success of any significant development in spinning and twisting machinery design. This "association in progress" is another important reason why Victor

is specially qualified to recommend and supply the travelers best suited to your operations, whether you are running natural fibers, synthetics, or blends. For prompt service, contact the nearest Victor office.



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**Travelers**

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CJNC6  
Lot 56415  
Mix #115  
Run J4  
Lbs. 1048

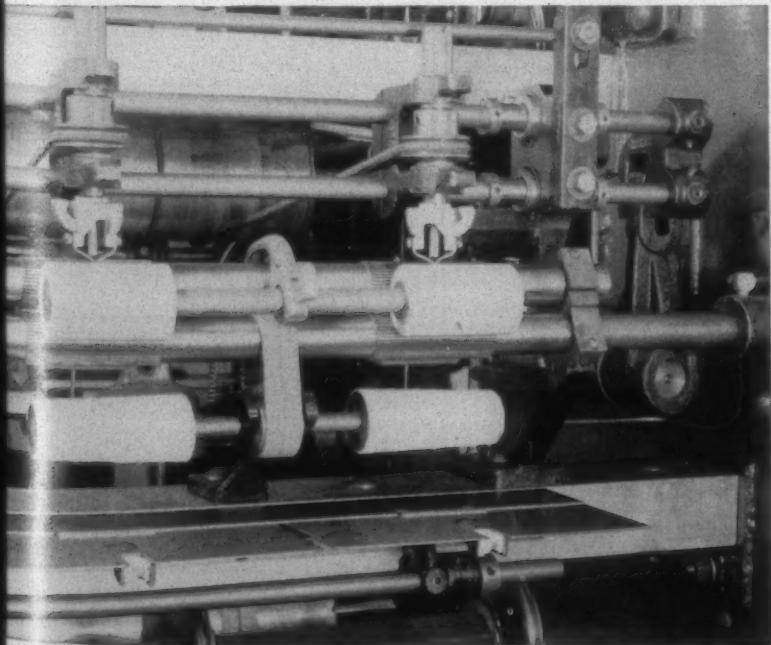
# Davis and Furber Specifies Dayco Cots

for its new Simplex Woolen Ring Spinning Frames

HERE'S WHY Davis and Furber specifies Dayco Cots on its new line of Model F Simplex Woolen Ring Spinning Frames. As a spokesman for the Company puts it, "Dayco roll coverings, with their uniformly high coefficient of friction, help to maintain uniform tension. Their smooth, even drawing action doesn't vary even when lumps of foreign matter are imbedded in the roping. Keeping our 125-year-old reputation for performance and quality in mind, we ship our Spinning frame equipped with Dayco rolls."

**DAYCO COTS** for the woolen industry are a special blend of natural and synthetic rubbers, selected for their resistance to wear, weather, oils and static. Maintaining the same coefficient of friction throughout their long life, Dayco Cots will not groove or become slick. Neither are they affected by extremes of temperature or humidity, nor by oils found in natural fibers. Equally suited to wool, synthetics, or blends of fibers, Dayco Cots resist lint build-up . . . thereby requiring less time for care and tending.

Close-up of Dayco draft press rolls as specified on Model F Davis and Furber Woolen Ring Spinning Frames. Dayco rolls maintain their smooth drawing action, with front roll speeds as high as 200 rpm, despite the occasional presence of lumps of foreign matter in the roping.



*Order Dayco Cots the next time your Dayco representative calls or write The Dayton Rubber Company, Textile Division, 401 S. C. National Bank Building, Greenville, S. C., for further information.*

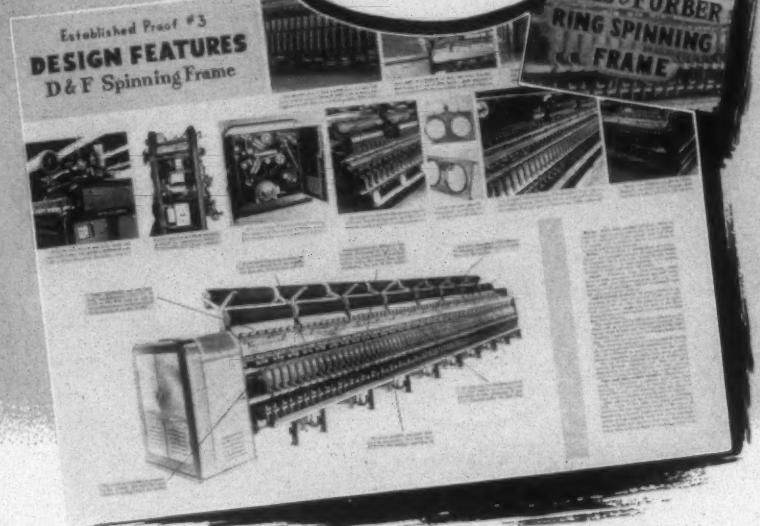
## Dayton Rubber

*Dayco and Thorobred Textile Products for Better Spinning and Weaving*

# NEW D&F "FRAME RECORDS" TELL Improved Spinning Production Story

- Reduced cost per pound
- higher speeds
- more uniform tension
- less downtime
- less doffing

Get the facts on the  
New D&F Design Features  
**Ask for "D&F NEWS  
QUICK REVIEW"**



Compare your own spinning room records with conservative figures offered by a typical cross section of progressive mills in a recent Davis & Furber mill survey. The story of *New Design Features and their operation* on the Davis & Furber Model F and G Ring Spinning Frames is one of *flexibility in design and application*. It makes these D&F Models adaptable to individual Mill Management Production Improvement Plans — to stock and blend specifications — to proposed investment budget limitations — to proposed cost-per-pound reduction plans. Facts have been outlined for you in the new **D&F News Quick Review**.

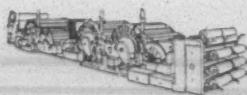
**FIVE PROOFS in this QUICK REVIEW**

1. Present acceptance and use in Mills.
2. Comparative production figures.
3. New design features.
4. Modernization of Existing Frames.
5. An invitation to prove this "Improved Production" on your own roping with D&F New Demonstrators.

Davis & Furber can offer a Production Improvement Plan for your mill. That's where the advice and counsel of D&F "Coordinated Production" technicians follows through. To get (a) *published proof* of latest production results, plus (b) *specific proof* (per item 5) tied to your present production results, act at once. Call or write now and let us schedule you for a *Presentation of your future yarn production schedule*.

# DAVIS & FURBER

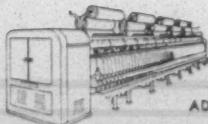
MACHINE COMPANY



## TEXTILE MACHINERY DESIGNERS AND MANUFACTURERS

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AD 13-2

CARDS • SPINNING FRAMES • PREPARATORY MACHINERY • WARP DRESSING MACHINERY • FINISHING MACHINERY  
MACHINERY MODERNIZATION • ACCESSORIES, SUPPLIES, CARD & NAPPER CLOTHING, GARNET WIRE, TAPES & APRONS  
SPARE PARTS • TECHNICAL SERVICE & CONSULTATION

FOR THE TEXTILE INDUSTRY'S USE —

dye will prove of considerable interest in printing on cotton, especially on mercerized cotton goods where a jet black is obtained with outstanding light and wash fastness. Its use in printing patterns with other Cibacron dyes eliminates the problem of adding a different type of dye to obtain a good black. In addition to printing, the new Cibacron Black BG is applied in piece dyeing, and is said to be especially useful for dyeing by pad-steam, pad-thermofix and exhaust methods. Its application in exhaust dyeing increases the range of fabrics on which it can be used.

(Request Item No. D.)

### New Stair Tread

The development of a long-wearing stair tread with a molded nose has been announced by American Mat Corp. The tread, which presents a diamond design, is produced of Do-All rubber and cord compound. It will be available with either rounded or square nose. Black in color, the treads are  $\frac{1}{4}$ " thick and come in widths up to 36". Maximum depth is 24", with a standard depth of 12". A 36x24" landing mat of the same material and design is being distributed for use with the treads.

(Request Item No. D-6)

## Fork Trucks

A new line of electric-powered, stand-up center-control fork trucks with capacities from 4,000 to 10,000 lbs. has been announced by The Elwell-Parker Electric Co. Five models are available with capacities of 4,000, 6,000, 7,000, 8,000 and 10,000 lbs. All models feature front-wheel drive and rear wheel steering for maximum maneuverability. The trucks have been engineered for rugged service, according to the company. The frame is of heavy-gauge reinforced formed steel plates electrically welded into a rigid box structure. Uprights are of alloy steel, with inner uprights and the elevator mechanism designed to move on widely spaced rollers. The trucks also feature contactor control with automatic acceleration, four speeds forward and reverse with direction and acceleration through a single hand control lever.

(Request Item No. D-7)

## Face Seal & Bearing Support

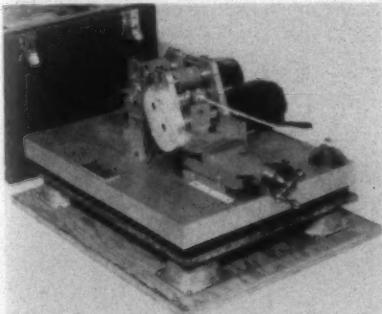
A new face seal and bearing support designed to provide installation and maintenance savings for immersed rolls, rotors and shafts, has been introduced by the Rodney Hunt Machine Co. This seal unit is said to be particularly suitable for application under conditions found in the textile industry. Company engineers report the new product acts as an effective and relatively frictionless seal against leakage yet its design permits external mounting of shaft bearings. The Rodney Hunt seal is said to eliminate scoring and damage to costly shafts which is frequently encountered when a stuffing box is used. A flexible

thetic rubber gasket, bolted to the side of the tank, embodies a lapped metal seal which bears against the face of a graphitar collar attached to the shaft. The self-adjusting seal elements are made of Type 316 stainless steel for corrosion resistance. The bearing bracket is of galvanized cast iron with self-aligning cartridge type ball bearings or plain bearings. The bearing bracket also acts as the retaining plate for the flexible gasket.

It is reported that all wearing parts of the Rodney Hunt seal are easily replaced, and that the bracket and bearing, without the seal, are suitable as an external mounting for dryer roll applications. Rodney Hunt seal units are available to machinery manufacturers as complete components for  $1\frac{1}{8}$ " and  $1\frac{1}{4}$ " diameter shafts, with bearing brackets for rolls up to  $5\frac{3}{8}$ " diameter. Special units for  $1\frac{1}{2}$ ",  $2\frac{1}{2}$ " and  $3\frac{1}{2}$ " diameter shafts are available for separately mounted pillow block bearings for rolls up to  $13\frac{3}{4}$ " in diameter.

(Request Item No. D-8)

### Cohesion Tester



Commercial model of the Cohesion Tester (Custom Scientific Instruments Inc.)

Custom Scientific Instruments Inc. has announced a commercial model of its Cohesion Tester. This unit was developed by West Point Mfg. Co. to measure forces involved in the drafting of strands of textile fibers such as sliver and roving. Such information is useful in determining proper roving twist, evaluating fiber fineness, and in studying the relationship of these and many other fiber characteristics to yarn quality. The specifications of the unit are as follows: the setting between rolls may be varied from  $1\frac{1}{8}$ " to 8", the stationary set of drafting rolls has a fixed speed of 25 r.p.m., and the moveable set of drafting rolls has speed settings of 24, 14, 9 and 6 r.p.m.

(Request Item No. D-9)

### Yarn Sample Winder

The AVC master winder, a new device for winding card samples of yarns and filaments, has been announced by Manufacturers Engineering & Equipment Corp. The new equipment was developed in conjunction with the American Viscose Co. The AVC master winder is useful in winding card samples of yarns and filaments for presentation to an instrument such as the Colormaster differential colorimeter, en-

abling sample colors to be measured quickly and controlled. Sample deniers can range from 50 to 2,500 denier. An automatic counting device in the new equipment permits the operator to pre-select the number of layers desired of the material under test. When this number of layers is reached, the winder stops winding automatically.

(Request Item No. D-10)

a light copper. They are being made available in regular Celaperm deniers and are suitable for both warp and filling.

(Request Item No. D-11)

### Laboratory Stop Watches

A new line of large size, precision laboratory stop watches for electrical and manual operation has been announced by Herman H. Sticht Co. Inc. The watches, made by the firm of James Jaquet, Switzerland, are reported to be considerably larger than ordinary pocket size stop watches and to incorporate a reliable, heavy duty precision type of stop watch movement. They are designed to withstand considerable wear such

## NON-FLUID OIL

TRADE MARK

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# FOR BETTER SPINNING

In your spinning room, smooth, dependable operation is essential for quality yarn production. This means you should use NON-FLUID OIL, the lubricant that stays in the bearings, regardless of speed and temperature.

Ordinary oils creep or spatter out of spinning frame roll stands, causing high oil and application costs, plus damaged roll covers and stained yarns.

NON-FLUID OIL stays in roll stands—lubricating dependably until entirely consumed—and protects roll covers and saves on oil and application expense.

Get positive proof of this performance of NON-FLUID OIL. Send for Bulletin T-13 and free testing sample . . . no obligation to you.

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NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

## FOR THE TEXTILE INDUSTRY'S USE—

as in a laboratory where watches are used hundreds of times a day, the company reports. Dial size of the watches is 2.36".

Three types are available: the large hand type, the large hand type with electrical contacts and the electro-magnetic type with stand. Watches of the electro-magnetic type have the same movement but can be operated both by hand and electrically. They are made in several types: with starting and stopping affected by electric impulses (with impulse magnets) or the watches are stopped when the circuit is opened (continuous current magnetic type). The watches will indicate 1/5, 1/10, 1/50 or 1/100 second as well as decimal types with a range of 1/100 of a minute.

(Request Item No. D-12)

## Nylon Inserts



Nylon bearing inserts for spinning frame tension roll supporting arms (J. W. Collier Co.)

New nylon bearing inserts for spinning frame tension roll supporting arms are currently being marketed by the J. W. Collier Co., textile machinery parts and repair company. The new Collier nylon bearing inserts are reported to be easily installed without removal or dismantling of the old tension roll supporting arm from the spinning frame. They slip into place over the worn area of the arms inner bend thus insuring proper roll concentricity and alignment. Collier Co. reports that the radius in the new inserts is of proper arc to allow installation of Collier nylon bushing on the tension roll, making what is described as an ideal, long life, high precision bearing surface of nylon on nylon. Collier nylon inserts and tension roll gudgeons are claimed to have current replacement part costs and eliminate long, expensive stoppage, dismantling and downtime. Versatile in design, Collier nylon inserts and gudgeons are engineered to fit certain types of American system high speed spinning frames.

(Request Item No. D-13)

## Green For Nylon, Wool

Latest addition to Du Pont's line of Capracyl dyes for use on nylon and wool is a bright green, designated Capracyl Green 2Y, which is particularly recommended by the company for materials to be used as suitings, carpeting or upholstery fabrics. Du Pont reports that the new dye possesses good light fastness and wet

processing properties, dyes nylon or wool evenly, builds up on tone from pastel to full green shades, and can be applied in all types of conventional equipment to rawstock, yarn or fabric of filament nylon, spun nylon or wool. It becomes yellower in shade under incandescent light.

(Request Item No. D-14)

## Waterproof Electrical Switch

The Recora Co. Inc. is marketing a new type of electrical foot switch under the tradename Neptune. The switch is characterized by a completely waterproof construction, and can be submerged in water for either operation or cleaning, according to the company. It is also reported to allow fatigue-free operation due to its extreme thinness—less than 1/2". Designed especially for use in control and low power circuits, Recora reports, it can be used on electrically operated equipment under the most severe environmental conditions. The switch electrodes are embedded in a flexible vinyl plastic which is highly resistant not only to water but to oils, greases and most other common chemicals. Standard Neptune switches are available in four colors—brown, blue, green, gray—but can be manufactured in any color. The "larger than normal" dimensions of 6" x 8" allow repetitive foot operation without searching. The switch is said to be usable in any application where easy operation is required.

(Request Item No. D-15)

## Dyehouse Trucks



Molded fiberglass dyehouse truck (Carl N. Beetle Plastics Corp.)

Carl N. Beetle Plastics Corp., a subsidiary of Crompton & Knowles Corp., is now offering a molded fiberglass (Bonate) dyehouse truck which is reported to have many advantages not available in earlier models. The pipe frame is completely encased in the same Bonate which comprises the truck or tank body to protect the metal from corrosive effects of the acids and alkalies used in finishing. Wheels are placed where required and may be cast iron, plastic or steel, as desired, with or without anti-friction bearings.

To meet the requirements of dyehouse use, the truck bottoms are crowned for drainage. Trucks without drainage holes are available for liquid storage, etc. Slotted constructions are also offered for steaming filling, and a number of sizes are avail-

able in all types. Cleanliness is said to be easy to maintain since the material is non-absorbent, has no brazed or welded corners and may be cleaned with a hose.

Colors for identification may be molded into the trucks. Guard rails, which are a portion of the frame proper, help prevent damage to the body. Repair, however, is simple and inexpensive, the company reports. Truck bodies may be returned to their original form and condition after damage through the use of a repair kit which supplies material similar to that used in the original body. (Request Item No. D-16)

## Cellulose-Reactant Resin

Resin O-4, a new water-soluble, cellulose-reactant resin has been developed by Onyx Oil & Chemical Co. The new resin, especially developed for cellulosic fabrics, is said to impart the qualities of crease resistance and shrinkage control. One of its most outstanding properties is said to be its exceptional resistance to chlorine degradation even after launderings at the boil.

Because Resin O-4 reacts with cellulose rather than with itself, the company reports, it creates stabilizing and crease-resistant effects on rayon and cotton with resulting additional qualities of a soft hand and excellent durability. According to the Onyx Company, other advantages of the resin are (1) its flexibility in obtaining desired hand; (2) minimum effect on physical properties; (3) ease of solubility; (4) durability to alkaline washes; and (5) absence of resin buildup on texturizing equipment. Basically Resin O-4 is a cyclic aliphatic resin in a clear, semi-viscous syrup state. It has a solids content of approximately 50% and a pH of 7.8 to 8.0.

(Request Item No. D-17)

## Tensile Tester

Thwing-Albert Instrument Co. has announced the availability of Model 30LT tensile tester, a low cost unit said to have the flexibility and testing features of higher priced instruments. The Model 30LT tensile tester is a pendulum type table model meeting T.A.P.P.I., A.S.T.M. and Federal specifications, the company reports. It is equipped with the electro-hydraulic drive offering infinitely variable pulling speeds between 2 and 20" per minute. The units are furnished with a standard calibration of 0 to 10, 0 to 30 and 0 to 100 lbs. Other calibrations can be supplied. If desired, the unit can be supplied with direct reading elongation indicator. The instrument weighs 100 lbs. and operates from a standard 110-v, 60-cycle, a.c. outlet.

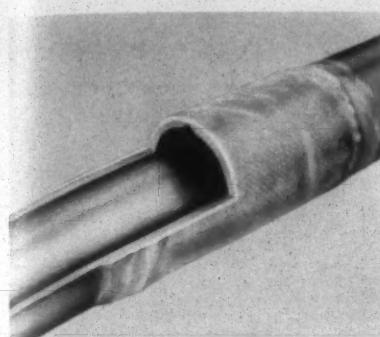
(Request Item No. D-18)

## Scouring Agent

Laurel Soap Mfg. Co. is recommending its S. D. 200 as a superior agent for raw wool scouring, fulling and scouring of woolen and worsted piece goods, and scouring of cottons, rayons and acetates. An amine-fatty acid condensation product of essentially 100% concentration, it is also

to be highly useful in the dyeing of yarns and fabrics, and for soaping off prints. Laurel reports that S. D. 200 is stable to hot water and, used with soap, prevents the formation of hard soap curds. Free samples and further instructions are offered by the company. (Request Item No. D-19)

### Epoxy-Based Sealer



Homalite 345 can be used for many types of emergency repairs, including the mending of leaking pipelines. (The Homalite Corp.)

Emergency repairs of metals, plastics, wood, concrete and other materials are quickly made with Homalite 345, an epoxy-based compound, according to the Homalite Corp., developer of the compound. The repaired equipment can be back in service within an hour, Homalite reports, and the repairs are permanent. Homalite 345 will adhere to any clean, dry material, according to the company.

A coating of Homalite 345 is applied to the material needing repair, a layer of glass cloth is pressed into the coating and another coating of Homalite 345 is applied on top of the glass cloth. Additional layers of glass cloth and Homalite 345 may be applied for extra strength which, by weight, is said to exceed the strength of steel.

Homalite reports that the product has also been used successfully as a lining for tanks and ducts handling fluid chemicals and other corrosive materials. It is said to have high dielectric properties which make it very useful for insulating, sealing and repairing cables, coils, armatures, transformers and other electrical equipment. It is described as an effective sealing compound against either pressure or vacuum and is unaffected by temperatures up to 150° F. Special formulations can be supplied to meet higher temperature conditions. In addition, the compound repair is said to be highly resistant to impact, abrasion and corrosion. A kit consisting of four  $\frac{1}{2}$ -pint packages, a roll of glass cloth, rubber gloves and a brush is available for experimentation. (Request Item No. D-20)

### Silicone Finish For Cotton

A silicone finish said to be durable to both machine washing and dry cleaning has been developed for cottons and cotton blends by Dow Corning Corp. The new finish can be easily applied on conventional equipment and does not require after-washing or treatment to develop excellent water repellency, the company reports. Cost of

application is said to be competitive to existing durable repellents.

Up to now, silicone finishes have been used extensively on synthetics, blends and woolen fabrics to improve hand and impart water and spot resistance, as well as other advantages such as wrinkle resistance and crease retention, Dow points out. Lack of adequate durability to high temperature machine washing, however, limited their use to dry cleanable fabrics or those that could be hand washed.

Dow Corning plans to market the new product under its brand name Syl-Mer. This product will be the eighth in the line of Syl-Mer products available for the finishing of most types of woven fabric.

(Request Item No. D-21)

### Nylco Metallic Yarn

Nylco Products Inc. has announced a new high-tenacity Mylar-base yarn, available in 1/32, 1/50, 1/64 and 1/100" widths. The patent-applied-for process is said to give the Nylco product twice the tensile strength of standard constructions. The addition of this tensile strength opens new applications for metallic yarn in the weaving of upholstery, sweaters, bathing suits, bedspreads, drapes, towelling, women's outerwear, woven labels and numerous other products, Nylco reports. Nylco has announced availability of the product in silver, as well as light and dark shades of gold. Pricing of the new product will be at levels competitive to standard constructions, the company reports, with immediate availability promised.

A controlled stretch feature permits standard weaving equipment to handle this new metallic yarn with greater ease and fewer yarn breaks. The metallic yarn will be packaged in 36 spools to a case in 1-lb. and 12-oz. sizes. Nylco also makes standard construction metallic yarns.

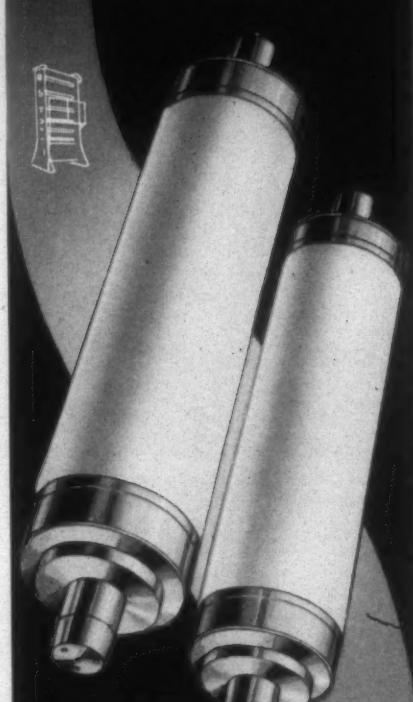
(Request Item No. D-22)

### Viscometer

A new viscometer designed to accurately measure and record the consistency of starch pastes has been developed by Gaertner Scientific Corp. Designated the Corn Industries Viscometer, it has been adopted as the standard testing instrument for the starch industry by the Corn Industries Research Foundation. The Gaertner Viscometer is used as a quality control and research instrument in both the dry and wet milling industries. It is designed to identify the physical properties of starches by continuous determination of apparent viscosity or consistency of starch pastes. Quality control tests can be completed at a rate of about three an hour and results can be determined to a repeating accuracy of  $\pm 1\%$ , according to Gaertner.

The instrument consists of a stainless steel beaker immersed in a temperature-controlled water bath. A propeller, driven through a gear system, stirs the paste placed in the beaker. As the water temperature is raised, the viscosity of the paste varies and the changes cause the propeller to turn slower or faster. The differential torque is transmitted to a dynamometer and is reg-

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## FOR THE TEXTILE INDUSTRY'S USE—

istered as a pen trace on a continuously moving paper graph recorder.

The new viscometer is said to be of an improved design that incorporates sturdier components for longer life and trouble-free operation. These include heavier gearing and more powerful motor and heater. Other improvements include compact design, reduced height and simplified operation and adjustment of gears, agitator, recording pen and leveling screws. A gelometer attachment is available for use with the viscometer. This gel tester uses the embedded disk method of measuring rigidity and breaking strength of gels.

(Request Item No. D-23)

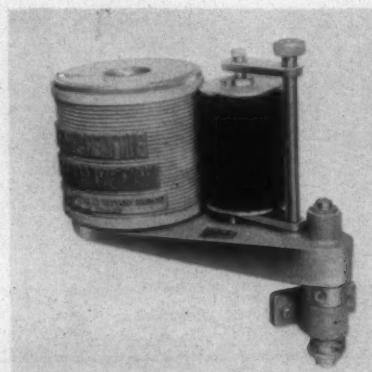
## Yellow-Orange Dye

A new light-fast direct dye that is said to produce yellowish-orange shades highly resistant to the effects of resin treatments on cotton and rayon has been introduced by the Du Pont Co. Designated Pontamine Fast Orange DL, the new dye is reported by Du Pont to be of particular interest as a self-shade or as a shading component in compound shades for use on spun rayon in conjunction with resin after-treatments. It is recommended by the company for use on dress goods, sportswear, suiting, upholstery and drapery materials, and other fabrics for end uses requiring good fastness to light, washing, perspiration and other color-destroying influences.

Pontamine Fast Orange DL dye has good solubility, dyes evenly, penetrates well and can be applied by padding, according to the company. One of the big advantages cited for the Pontamine dye is the fact that when used to dye cotton or rayon fabrics containing other fibers it imparts no stain to acetate, Dacron, or Orlon. It stains nylon only slightly, shows noticeable staining of wool and considerable staining of silk.

(Request Item No. D-24)

## Case Marker



Rolacoder case marking attachment  
(Adolph Gottscho Inc.)

A new Rolacoder conveyor and case sealer attachment for marking and coding shipping cases automatically on the production line has been introduced by Adolph Gottscho Inc. The new Series 300 Rol-

coder markers are said to incorporate many features not available in the company's earlier Series 800 and 100 models. The new units are said to be more compact and easier to install in a production line. Considerably improved performance has been achieved, according to Gottscho, and very high-quality imprints up to 3" in depth can now be assured.

The manufacturer reports that an improved high-capacity inking system is another feature of the new Rolacoder marker. Its ink reservoir now holds a week's supply, eliminating the necessity for frequent re-inking, and permitting use of bright colored inks. A new swing-out mounting makes it easier to refill the case marker's ink reservoir and to make type changes. Patented Metalok type bases hold rubber type or dies more securely on the printing wheel and simplify their attachment.

Gottscho reports that the marker is readily adaptable for imprinting the top, bottom or either side of cases of various dimensions, and will accurately spot-print codes or other copy legends in almost any location on the cases. Where the user prefers the marker to imprint continuously or at random locations, the unit can be supplied without its registering mechanism.

(Request Item No. D-25)

## Anti-Corrosive Coating

A cold-applied anti-corrosive coating for steel surfaces has been announced by Selby, Battersby & Co. Known as Komul, this anti-corrosive agent is an irreversible uniform emulsion of coal-tar pitch, not merely coal-tar, stabilized with mineral colloids, and ready for application without heating. It is said to provide the excellent corrosive-preventing qualities of coal-tar pitch without the disadvantages, because it is easy to apply and has good resistance to the effects of temperature change. It contains no bentonite clay, soluble soap, asphalt, sulphite pitch or sulphonic acids.

Komul has wide application as an anti-corrosive for steel beams, girders, tanks and other structures, either under construction or in existing plants, the company says. It is also used under floor coverings, in drain wells and other locations in industrial plants and warehouses.

(Request Item No. D-26)

## Submersible Motors

A complete line of submersible a.c. electric motors for direct coupling to pumps which must operate continuously while submerged in oil, water or liquid chemicals has been introduced by Reliance Electric & Engineering Co. The polyphase, single-voltage submersible motors are available in sizes from  $\frac{1}{4}$  through 15 h.p. The special universal mounting flange is said to be designed for direct connection to most standard pumps. Modifications can be made to meet special dimensional requirements.

Reliance points out that the motor base is precision-machined for true concentricity of shaft, providing easy, vibrationless close-coupling to the pump impeller with no painstaking alignment; the motor shaft

serves as the pump shaft. The pump and motor assembly can be lowered into mounting position and attached as a single unit. Integrally cast rings at the top edge of the frame are designed to permit convenient, balanced handling.

Rated at  $55^{\circ}$  C. temperature rise for 30-minute duty in  $40^{\circ}$  C. air, and for continuous duty in  $40^{\circ}$  C. liquid, the new pressure-proof motors are oil-filled to give long, trouble-free performance when immersed at any depth.

(Request Item No. D-27)

## Recorder And Controller For Humidity, Temperature

A variable-range humidity and temperature recorder controller, said to be of high accuracy, is now available from Serdex Inc. The two-section instrument provides humidity readings accurate to  $\pm 3\%$  r.h. within its operating range of 15% to 95% r.h. at temperatures from 32 to  $130^{\circ}$  F. Serdex reports. The company points out that a patented circular animal membrane provides this high accuracy. Temperature readings are reported to be accurate to  $\pm 1^{\circ}$  F. over a range of 0 to  $100^{\circ}$  F. A bi-metal cantilever temperature sensing element is used.

Direct reading of the recorded humidity and temperature readings and control limit lines may be taken through the indicator window in the sensing section. Control range for each of the conditions is determined by locating recording-chart electrical contact blocks on a positioning post in the sensing section. If one of the recording pens contacts a limit block, a control circuit energizes the appropriate relay, and a 5-amp. control signal is generated.

The pen-block relay control circuit is broken to prevent excess arcing, but the control circuit is electrically checked at variable timer-controlled intervals from 1 to  $27\frac{1}{2}$  minutes. When the checking circuit finds the pen-block contact open, indicating within-limits conditions, control voltage output is removed. Switches are provided to initially establish conditions within control ranges prior to start of automatic control.

The indoor-outdoor sensing section is constructed of sturdy aluminum and may be located remotely from the monitoring section. The unit, Model HGS-HYT-1C, operates on 115-v., 60 cycle a.c. The sensing section is  $12'' \times 15'' \times 6''$ ; the monitoring section is  $8'' \times 8'' \times 14''$ ; total weight of the unit is 25 lbs.

(Request Item No. D-28)

## Catalysts

Proctor Chemical Co. has announced the release of a series of four catalysts specifically designed to promote the cure acceleration of thermosetting resins. These catalysts, known as the Curities, are based on metal salts and organic compounds. They are described by the manufacturer as being water-white liquids that do not discolor during high temperature curing.

(Request Item No. D-29)

# For the Mill Bookshelf

## Corrosion-Resistant Coatings

The Livingstone Coating Corp., which has worked on the applications of Du Pont's Teflon (polytetrafluoroethylene) and various types of corrosion-resistant coatings and tank linings for nearly 5 years, has announced that it will publish a series of quarterly engineering bulletins dealing with case histories of work performed over the past 4 years and an introduction of some of the newer materials as they are presented to the industry.

Reprints of pertinent papers will be made available together with summaries of meetings attended by company personnel, when it is felt the information is worthwhile. The company reports that the bulletins will not be "sales gimmicks" although some information will come from formulators and plastic manufacturers.

Some of the subjects to be covered will be "The Proper Installation and Use of Plasticized and Fligid PVC as a Tank Lining Material"; "The Use of Plastiols as a Corrosion Resistant Coating Under Severe Conditions"; "The Economic Balance of Protecting Air Conditioning Central Station Fans"; "Metallizing and the Use of Proper Sealcoats"; "Baked Phenolic Coatings Versus Chemically Catalyzed Phenolic Epoxy Materials"; "Teflon Coating as an Anti-Stick Material and as a Corrosion Resistant Coating"; "The Protection of New and Old Hot Water Storage Tanks"; "The Value of Zinc Rich Coatings"; "Metal Preparation"; "Polyurethane Coatings"; "Butyl Rubber for Tank Linings"; "Neoprene Sheet Lining Materials"; "Neoprene Protective Coatings"; and "Co-operation Between the Manufacturer, Applicator and Customer." (Request Item No. D-30)

## Speed Measuring Systems

General Electric Co. has published an 8-page, illustrated bulletin, GED-3259, describing speed measuring systems with special emphasis given to custom marked scales, dual scales and color bands for tachometer instruments as needed for incorporation into process machines such as textile machinery. The bulletin gives design features and application data on General Electric's complete line of tachometer instruments and generators for industrial speed measurement.

(Request Item No. D-31)

## Twisting And Winding

Universal Winding Co. has published No. 126 in its series of 4-page bulletins on twisting and winding. One of the two articles in the bulletin deals with the reduction of loom stops. The other deals with the ribbon breaker switch on the company's Roto-Coner Winder. The switch is said to prevent so-called ribbons or bands by shut-

ting off the current from the main drive motors long enough to slow down the rotary traverses momentarily. When the current is restored, the increase in speed causes the packages to slip very slightly on the driving drums, just enough to change the lay of the yarn on the package and avoid bands. (Request Item No. D-32)

## Roll Catalog

A new industrial roll catalog and buyer's guide has been published by the industrial roll division of Rodney Hunt Machine Co. The new catalog furnishes detailed information about the engineering, construction and application of all types of wood, rubber, metal and plastic rolls. Extensive data is also included as a guide in the selection and maintenance of industrial rolls. Of particular interest to new and prospective users of industrial rolls is a description of the engineering and service facilities offered by Rodney Hunt. Design data sheets in the back of the catalog assist customers in selecting the design and fabrication needed for special application.

(Request Item No. D-33)

## Heating, Air Conditioning

A new 12-page bulletin that describes the complete line of Herman Nelson heating, ventilating and air conditioning products, has been introduced by American Air Filter Co. Bulletin 701 features the company's new Roll-O-Vent automatic filter section and its adaptation to heating and ventilating units, industrial unit heaters and air conditioning units. The bulletin also includes illustrations and descriptions of the Herman Nelson convector radiators, finned radiation, unit heaters, console heaters, propeller fans, unit blowers, industrial exhausters and centrifugal fans. Seventeen tables and charts outlining performances, capacities, dimensions, range, c.f.m. and h.p., motor ratings, as well as numerous arrangements of units, are shown. (Request Item No. D-34)

## Continuous Bleaching Of Cotton Goods With Hydrogen Peroxide

A comprehensive presentation of the advantages of continuous bleaching of cotton goods with hydrogen peroxide, plus a detailed description of the procedures and equipment used, is contained in an attractive new 24-page brochure published by Becco Chemical Division, Food Machinery & Chemical Corp. Among the advantages cited for continuous peroxide bleaching over kier bleaching or other batch bleaching systems are these:

(1) Continuous peroxide bleaching treats yard after yard identically, in terms of time, temperature and chemicals, resulting in the production of goods with uniform color and uniform absorbency, week after week.

(2) It uses only half or less of the water required in kier bleaching for a given quantity of fabric.

(3) Only a fraction of a pound of steam is required per yard of goods bleached, compared with 2 or 3 pounds in kiers. Chemicals used average as much as one-third less.

(4) It requires only 1 to 3 hours of processing time from greige goods to white goods, as compared with 16 to 24 hours in kier bleaching.

(5) Continuous bleaching needs only half the floor space of kier equipment for the same quantity of goods.

(6) Man-power required is only half, or less.

Copies of the brochure, entitled "Becco Continuous Bleaching with Hydrogen Peroxide," are available free on request.

(Request Item No. D-35)

## Window Units

Window units designed for visual observation of oil supply and operation of internal machine parts are described and illustrated in a new 4-page leaflet, Bulletin 8-E, issued by Bijur Lubricating Corp. Features of the three types of window units, level, standard and open, are detailed. The versatility in application of the three types are illustrated. Included are specifications and parts numbers for both glass window and plastic window models, in 5 sizes ranging from  $\frac{3}{8}$  to  $3\frac{1}{4}$ . Installation data provide complete instructions for permanently oil-tight, flush mounting. Pressure and temperature limits are shown.

(Request Item No. D-36)

## Steel Shelving

A new bulletin presenting the Penco line of phosphatized steel shelving is available from Penco Metal Products Division, Alan Wood Steel Co. Designated as Bulletin No. B-20, this 8-page, 2-color booklet describes and illustrates 6 styles of Penco's open and closed types of plain and ledge shelving. It also covers companion shelving equipment such as drawer units, counters, tool inserts and shelving boxes. Complete dimensional tables are listed for all these Penco units. (Request Item No. D-37)

## Textile Softener-Lubricant

Nopco Chemical Co. has released new technical information on Nopcotex B, its softener, lubricant and napping aid for natural and synthetic fibers, yarns and fabrics. As described in data report, TX129, the product is a 100%-active fatty derivative that is applied as an aqueous dispersion in the wet finishing operation. Among the advantages featured for Nopcotex B are its uses as a softener for wool-cashmere blends

#### FOR THE MILL BOOKSHELF

and general fabrics; as an anti-static lubricant for nylon and other synthetic fibers; and as a napping aid that gives a full hand. (Request Item No. D-38)

#### Conveyors

A new illustrated catalog sheet published by The E. W. Buschman Co. provides full details on the Buschman line of aluminum wheeler and roller conveyors. The literature provides complete specifications on every model in the series including over-all width, wheel and roller spacing, and section lengths. (Request Item No. D-39)

#### Dock Leveling Devices

A new catalog sheet illustrating and describing its new line of mechanically counterbalanced, truck-actuated dock leveling devices has been published by Rowe Methods Inc. The free literature lists three models, all of which have capacities of 20,000 lbs. Complete specifications of all models are highlighted in the catalog sheet, and a photograph of the device is included. (Request Item No. D-40)

#### Surface Active Agents

The publication of a new 20-page handbook of surface active agents by Onyx Oil & Chemical Co. has been announced by the

company. Designed for easy reference, the handbook groups 90 different Onyx surfactants in three major categories: (1) anionics; (2) cationics; and (3) non-ionics. Product descriptive data, including specific applications and properties, are tabulated in a standard format throughout the booklet. A general explanation of what surface active agents are and what they do is contained in the foreword. (Request Item No. D-41)

#### Rubber Hose

The Manhattan Rubber Division of Raybestos-Manhattan Inc. has issued eight new catalog sections on rubber hose. These cover most of the industrial types of rubber hose with detailed illustrations, data on construction, service, sizes, pressures, weights and fittings. The sections are: M610 Air, M620 Water, M630 Steam, M640 Water Suction, M650 Petroleum, M660 Industrial Fire, M670 Spray and Welding, M680 Special Service. Copies are available by specifying section numbers desired. (Request Item No. D-42)

#### Steel Tubing And Pipe

Engineers, buyers, fabricators and others involved with the procurement or use of stainless steel tubing and pipe will benefit by Technical Data Card 148A, recently issued by the tubular products division of The Babcock & Wilcox Co. This card summarizes hot working, annealing, welding and forming data on 24 of the widely-used

austenitic and hardenable and non-hardenable ferritic stainless tubing steels.

(Request Item No. D-43)

#### Rubber Covered Rolls

A pocket-size booklet "How to Get Longer Life and Better Performance from Rubber Covered Rolls" is now available from Stowe-Woodward Inc. The material covered includes instructions for handling and storage of rubber covered rolls and instructions and specifications for grinding rubber covered rolls.

(Request Item No. D-44)

#### Tachometers

A new booklet has been published by Jones Motorola Corp., outlining the advantages of speed indication. Included in the booklet, No. 58, is a series of line drawings with dimensions showing various ways in which the company's tachometers may be installed in different applications. (Request Item No. D-45)

#### Industrial Brushes

A 64-page catalog listing maintenance and industrial brushes for both hand and machine use is available from S. A. Felton & Son Co. In addition to representative descriptions, illustrations and ordering specifications for every class of brush, the catalog also gives useful information on brush materials, brush constructions and how to select the right brush for the job. (Request Item No. D-46)

#### Lighting Standards

The RLM Standards Institute has just published the 1958 Edition of the RLM Standard Specifications Book, a reference guide designed for those concerned with the purchasing, specifying or selling of industrial lighting units. RLM specifications for fluorescent and incandescent fixtures most widely specified for modern industrial lighting have been further strengthened in the areas of efficiency, design and construction quality. New specifications are also included in the 1958 specification book covering: 2-lamp and 3-lamp special service fluorescent units; 3 types of units utilizing 800 ma. fluorescent lamps; new incandescent reflector sizes; and new mounting specifications for fluorescent units. Technical data in the new edition has been simplified and condensed by incorporating all specifications pertinent to all fixtures into a new, single Specification 101. Also, each individual specification is contained on the front and back side of a single page. Pages may be easily detached from the book and placed with a lighting equipment quotation or specification. Although this book has been streamlined for easier readability, specifications have not been curtailed, it is reported. Copies of the 1958 RLM Standard Specifications Book are available without cost or obligation from the RLM Standards Institute, 326 W. Madison St., Chicago 6 Ill.

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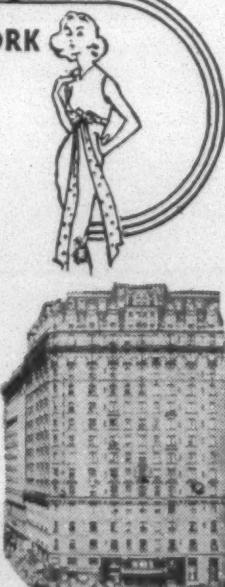
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# Serving The Textile Industry

## Universal Winding Receives Unifil Repeat Orders

Universal Winding Co., Providence, R. I., reports it has received a substantial repeat order on Unifil loom winders from Burlington Industries, Greensboro, N. C., and initial orders from J. P. Stevens & Co., Greensboro, Weldon Mills, Emporia, Va., and from an undisclosed mill. All of the new orders were reported to be for more than the minimum order of 100. The number involved in Burlington's order was not revealed.

## U. S. Bobbin & Shuttle Reports Some Improvement

The U. S. Bobbin & Shuttle Co., Lawrence, Mass., reports a little improvement in the first quarter of the year. Jack Locke, president, reported that the company has suffered increasing profit deterioration in the past five years. A loss of \$315,377 was shown by the company for 1957 and a loss of \$74,928 in 1956.

Company offices and production are being consolidated at the Greenville, S. C., plant. The Lawrence plant will be closed out. The Roughin mill at Enosburg Falls, Vt., will continue to run to supply hardwood blanks for Greenville.

## Whitin Machine Works Reports Lower Profits

Whitin Machine Works, Whitinsville, Mass., reported a consolidated net profit after taxes, of \$870,890 or \$1.22 per share for 1957. This compares with \$1,617,028 in 1956, or \$2.29 per share. Per share dividends for the year were reduced to \$1.20 from \$1.40 in 1956 because of the sharp drop in textile machinery orders, the company reported.

J. Hugh Bolton, company president, said that it was hoped that the company would have sufficient textile machine business to maintain its volume of sales until it could get into full production on its new non-textile line, but such was not the case.

Whitin is now manufacturing, in addition to its preparatory textile machinery, offset duplicators, electronic instruments and offset printing presses.

## Southern Dyestuff Buys Interest In Brazilian Firm

Southern Dyestuff Corp., Charlotte, N. C., has purchased half interest in Naegeli & Dia Ltda., Rio de Janeiro, Brazil, manufacturer of dyestuffs. The Brazilian firm was founded in 1912 and will continue to be headed by the Naegeli family interests under the name Naegeli S. A.

According to Leland G. Atkins, president of Southern Dyestuff, the firm will expand

its line of sulphur dyestuffs and add a number of new colors similar to those produced by his company. According to Mr. Atkins, Southern Dyestuff has made capital contribution to the South American firm as well as making available modern dye manufacturing equipment and authorizing it to operate under a number of Southern Dyestuff patents.

## Robinson Textile Co. To Handle Metallic Yarns

Robinson Textile Co., Atlanta, Ga., has been named as metallic yarn sales representative in Georgia, Alabama and Tennessee for the Fairtex Corp., Charlotte, N. C.

## Allied Chemical & Dye To Be Allied Chemical

One of America's large diversified chemical companies doing business since 1920 as Allied Chemical & Dye Corp. is about to become simply Allied Chemical Corp. In connection with a proxy statement sent to stockholders recently, Glen B. Miller, president, said that the directors believe the new name will more clearly reflect the broad nature of the company's position in the chemical industry and will not single

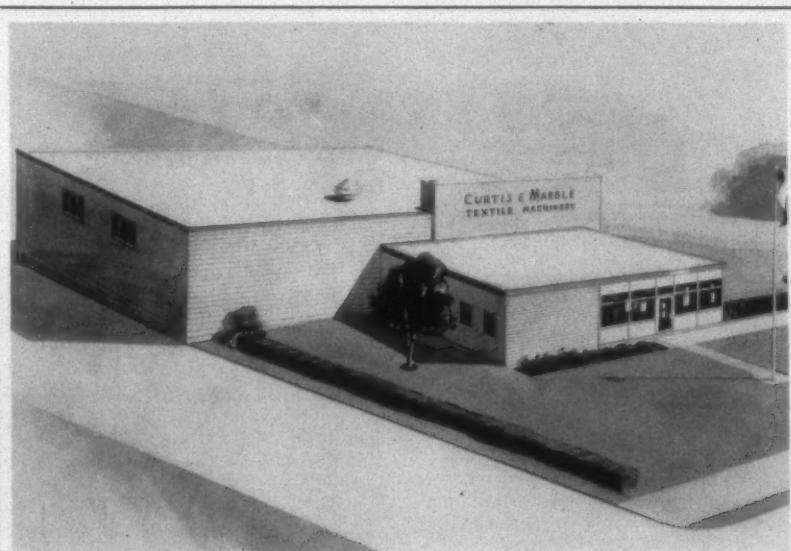
out a particular division or field of activity.

It is also believed that the shorter name will better identify the company in its public and trade relations and in advertising its products. The recommendation will require the affirmative vote of the holders of a majority of the outstanding common stock of the company and if approved will become effective by May 1. According to Mr. Miller, the proposal in no way implies lack of interest in the company's dye business.

## Charlotte Supply Houses Considering Merger Plan

The Textile Mill Supply Co. and the Industrial Hardware & Supply Co., both of Charlotte, have called special meetings of their stockholders for May 6 to consider a plan for consolidating the two companies.

The Textile Mill Supply Co., incorporated in 1898, is headed by J. H. Bobbitt as chairman of the board, Edward G. Glover as president, and Albert K. Glover as secretary-treasurer. Industrial Hardware & Supply Co., formerly a division of Allison-Erwin Co. of Charlotte, is a principal supplier to the general industrial trade and contractors in North and South Carolina. Its officers are Rufus K. Allison, president



THE CURTIS & MARBLE MACHINE CO. of Worcester, Mass., has announced plans to construct a Southern sales and service facility in Greenville, S. C. A site some two miles from Greenville on the Laurens Road has been acquired through Alester G. Furman Co. of Greenville and plans for a two-section building to house the new facility have been drawn up by Lockwood Greene Engineers. One section of the new building will be used as a sales and service center. The second and larger section will be used as a depot for replacement parts for Curtis & Marble machines, as well as for repair and maintenance work on most makes of C & M machines. The new facility is expected to be ready for occupancy by the first of June. Its operation will be headed by Jack Federline, who has been in charge of the Southern territory for Curtis & Marble for the past several years, Jack Stanley and Thure Bylund. Founded in 1831, Curtis & Marble has been supplying the Southern textile industry with cloth finishing machinery ever since. The company has had a representative in Greenville since 1924.

## SERVING THE TEXTILE INDUSTRY—

and treasurer; Arnold M. Roark, vice-president; and H. Bonner Howie, secretary.

Under terms of the proposal the merged companies would operate under the name of Industrial and Textile Supply Co. The consolidation, to become effective June 1 with the approval of the stockholders, is designed to provide more complete customer service and a broader range of products for customers of both firms.

## Goodyear Tire & Rubber Co. Develops Polyester Resin

A new polyester resin for use in production of man-made synthetic fibers has been developed and will be produced under the name of Vitel by the Goodyear Tire & Rubber Co. Vitel is described as an orientable, crystallizable, linear copolyester. Adaptation of the resin for textile applications represents a new step in the synthetic fiber industry, Goodyear reports, since production of the resin and production of the fiber will not be integrated operations.

The resin will be produced by Goodyear in a new \$9,000,000 facility the firm is building at Apple Grove, W. Va., while actual spinning will be done by a fiber producer. One firm to which the resin will be supplied is Beaunit Mills, New York City. Beaunit has initiated construction of a \$10,000,000 plant for the purpose of spinning fiber from Vitel, Goodyear reported.

Used alone or in blends, the new fiber is expected to find usage in underwear, shirts, suitings, dresses and other related products. The fiber may also be used in non-woven bats, felts and other bonded structures which take advantage of the high stretch and chemical resistance characteristics of polyester synthetics.

Vitel polyesters are characterized by the company as having high strength, exceptional stability and excellent weather and abrasion resistance.

## American Cyanamid Reports Gain In Earnings In 1957

American Cyanamid Co. reported earnings for 1957 exceeded 1956 before extraordinary capital gains while sales showed an increase of 6%. Net sales totalled \$532,479,350 in 1957 as compared with \$500,651,279 in the previous year. Net income for 1957, after taxes, was \$51,347,870 or \$2.42 a share, against \$44,247,158, or \$2.11 a share in 1956. Earnings for 1956 were increased by an extraordinary capital gain of \$11,125,307 or 54 cents a share, bringing the total earnings for the year to \$55,372,465 or \$2.65 a share.

## Riggs & Lombard Purchases Parks & Woolson Co.

Parks & Woolson Co., manufacturer of wet and dry finishing machinery at Springfield, Vt., has been acquired by Riggs & Lombard Inc. of Lowell, Mass. Parks & Woolson personnel will be located in the Riggs & Lombard works in Lowell and after May 1 all manufacturing will be carried on at the plant of the new owners at

Lowell. The newly acquired Parks & Woolson operation will be conducted as a division of Riggs & Lombard. Coupled with the recently acquired Cook Machine Co. line of finishing machines for cotton and synthetic fibers, Riggs & Lombard reports that it is now in a position to offer the textile industry a fully rounded finishing equipment service.

## Draper Corporation Reduces Work Force

The Draper Corp., Hopedale, Mass., Mass., manufacturer of looms and loom accessories, has further reduced its labor force because of the continued recession in the textile industry. The firm's president, Thomas H. West, said that orders for new machinery had continued to decline because of poor business conditions in the industry. The cutback was reported by the company to have affected many production departments.

## Saco-Lowell Shops Shows Loss In First Quarter

Saco-Lowell Shops, Boston, Mass., reported a loss of \$190,391 for the 13 weeks ended March 2, after a tax carry-back credit of \$207,000. For the comparable 13 weeks ended March 3, 1957, the company showed a net profit of \$45,603. Orders were reported by the company's president, Malcolm D. Shaffner, to be at a very low level. Mr. Shaffner said that it is expected that the company will sustain a further loss in the second quarter. The company passed the dividend normally payable in March and has embarked on a further program of drastic reduction in overhead expense. Operating loss before depreciation was \$84,732 in the latest period, compared with an operating profit of \$353,070 in the first quarter of last year.

## Geigy Issues Guaranty For Its Mothproofer

The Geigy Dyestuffs Division of Geigy Chemical Corp. reports that it is issuing a guaranty to mills applying its Mitin mothproofer to all-wool or wool-blended fabrics. The guaranty is reported to provide that the fabrics, if properly treated in accordance with Geigy's directions, will not be damaged by moth and beetle grubs or other keratin-eating species of insects. The guaranty applies as well to mills which use commission dyers for their Mitin application.

According to the guaranty, Geigy will pay the mill the actual cost of repairing or replacing the article at net price, whichever is less, if such insect damage occurs within the period of five years from the date of proper treatment.

Mitin is the complex chemical compound developed by Geigy, originators of D.D.T. insecticides, after ten years of experiments involving some 88,000 tests. It was first introduced in Europe in 1938, and in the U. S. around 1947. Mitin is applied like a dyestuff. When applied as directed, Geigy reports, it becomes chemically bonded to the woolen fibers, protecting the fabric for its usable life against possible damage from

moth and beetle larvae. Mitin is colorless, odorless, and is fast to light, wet or dry cleaning and abrasion.

## Sales And Profits Down At National Vulcanized Fibre

National Vulcanized Fibre Co., producer of textile bobbins and fibre materials handling receptacles, reported consolidated net sales for 1957 of \$19,873,504, down from the previous year's volume of \$21,348,461, second highest ever reported by the company. Net earnings after taxes amounted to \$922,378 equal to \$1.59 per share of common stock. For the year 1956 earnings amounted to \$1,190,786, or \$2.05 per share. There are 580,000 shares of common stock outstanding. Provision for taxes on 1957 income totaled \$979,545 compared with \$1,280,000 the previous year. In 1954, the company earned six cents a share on \$14,735,000 in sales. Further economies have been programmed for 1958, according to Eugene R. Perry, president and the company is budgeting a similar earnings level on a probable lower sales volume.

## Woodward, Baldwin & Co. Moves Its General Offices

Woodward, Baldwin & Co. of New York City, established in 1828 and one of the oldest textile firms in the Worth Street District, has moved its general offices from 43-45 Worth Street to 111 West 40th Street. The firm will occupy the entire 17th floor of the new building. All departments and staff members will be located there with the exception of the Custom Finishing Division which will continue at 110 West 40th Street, directly across the street from the new quarters. Woodward, Baldwin is the selling agent for Abney Mills, Greenwood, S. C.; Erwin Mills, Durham, N. C.; and The Monroe (Ga.) Cotton Mills.

## Warner & Swasey Co. Expects Drop In Volume Of Business

The Warner & Swasey Co., Cleveland, Ohio, may do a total volume business of about \$40,000,000 in 1958 as compared with the company's product income of \$56,354,408 in 1957, according to Walter K. Bailey, company president. The company's main products are textile machinery, machine tools and construction equipment. Mr. Bailey said that the company expected sales of its textile equipment to increase to some extent during 1958. An increase in the sales of construction equipment is also expected, according to Mr. Bailey, but, he said, the company would be fortunate to break even on the machine tool business for the first quarter.

## Charles S. Tanner Co. Building In Greenville, S. C.

The Charles S. Tanner Co., manufacturing chemists serving the textile industry, has purchased approximately two acres of land in Greenville, S. C. A contract for a suitable building for warehousing and plant production has been given to Triangle Con-

struction Co., Greenville. Completion of the building is expected in three to four months, according to the company. It will be of stacked brick construction and will be equipped with a railroad siding. The building will house offices, a laboratory and plant facilities, thus putting the company in a position to manufacture in the South many of the products which have been produced in New England.

### Celanese Corp. Shows Increased Sales For 1957

Net sales for the Celanese Corp. of America for 1957 amounted to \$192,297,353, approximately 2.1 per cent above the \$188,307,250 reported for 1956. The company reported that earnings for both years were affected by credits for over provision taxes in prior years and tax refunds. These amounted to \$4,842,570 in 1957 and to \$4,000,000 in 1956. After giving effects to these credits, the company's net income for 1957 was \$16,081,744 or \$1.94 per share of common stock, compared to \$16,863,224 or \$2.08 per common share in 1956.

The company said that the efforts of its textile division had been directed toward further market coverage rather than plant expansion. An encouraging trend, it said, is the fact that the weaving trades as well as yarn producers have tailored production to demand, avoiding the wide fluctuations between inventory accumulation and liquidation. This has not yet been reflected in the price structure, the company said. The company reported that during the past two years the major portion of its capital expenditures had been for chemical and plastics facilities.

### Singer Sewing Machine Co. Expands Nashville Office

John W. Cull, vice-president, Singer Sewing Machine Co., has announced establishment of a full-scale manufacturers agency in Nashville, Tenn. Formerly a branch of the Atlanta, Ga., agency, the Nashville office will now be responsible for selling and servicing industrial sewing machines and allied equipment throughout the entire state of Tennessee. Establishment of this agency in Tennessee brings improved service facilities closer to users of industrial sewing equipment located in this Southern area. In addition to sales and administrative offices, the agency includes a fully equipped precision-tool machine shop to serve the special needs of manufacturers within this territory.

### Textile Color Department Formed By Ansbacher-Siegle

Ansbacher-Siegle Corp. has announced the establishment of a new textile color department, specially created to furnish pigments, colors, dyestuffs and clears to the textile industry and those serving the textile industry. In making the announcement, Eric N. Blackstead, vice-president of Sun Chemical Corp., New York City, the parent company, stated that all textile color operations within Sun Chemical have been consolidated and integrated into a single, specialized department to provide better service

and a wider range of color products for the textile industry. The newly combined operation will function as a department of Ansbacher-Siegle and will be concerned with the development and sales of such products as: Suntone, textile printing colors and clears; Ansigen, azoic dyestuff solutions; Ansibase, stabilized bases, pigment slurries and presscapes. Justus Hoyt has been appointed product manager to head the new department. Prior to this new appointment he was general manager of Sun's pigment division. The textile color department will be located for the present at 309 Sussex Street, Harrison, N. J.

### Universal Winding Reports Increase In Net Sales

Universal Winding Co.'s net sales for the six months ended Dec. 31, 1957, amounted to \$7,557,565 as compared with \$6,809,055 for the corresponding period in 1956, a mid-year report by Robert Leeson, president, has disclosed. "Net income before Federal income tax amounted to \$230,955 as compared to \$207,290 for the 1956 period. No Federal income tax was payable for the 1956 period because of a loss carry forward, whereas for the current period the estimated Federal income tax of \$137,600 reduced the net income after taxes to \$93,355. This deduction for taxes includes \$23,000 additional taxes applicable to prior years, resulting from a revenue agent's audit covering years to and including 1956," Mr. Leeson pointed out.

"The continuing acute depression in the textile machinery business, coupled with the current general business recession have made the past six months a difficult period for the company. These same difficulties will certainly be with us and probably to an increasing degree during the six months which commenced on January 1. The bright spot in our picture is the continuing success of Unifil," he continued. "After extensive testing, a number of customers have placed repeat orders."

### Disogrin Industries Has New Plant And Offices

Disogrin Industries Inc., manufacturer of textile machinery components, recently announced that it has relocated to a new plant and offices at 510 South Fulton Ave., Mt. Vernon, N. Y. The company's production and other facilities have been increased and improved to enable it to provide better service to its customers, it was announced. Disogrin Industries is concerned with the production of and the sale of various products composed of or employing a polyurethane elastomer called Disogrin.

### Du Pont Company Shows Record Sales For 1957

Total earnings of \$397 million in 1957 was reported by Du Pont Co., as compared with earnings of \$383 million in 1956, including \$116 million from General Motors dividends in each of the two years. Per share earnings were \$8.48 in 1957 against \$8.20 in 1956. Dividends paid on common stock were \$6.50 a share, the same as in 1956.

Sales for the year totalled \$1,965 million, a record high for the company, and three per cent above the previous record year of 1955. The company spent a record \$220 million in construction and expansion of plants, compared with \$157 million spent for the same purposes in 1956. Six new plants were reported to be under construction.

Some \$80 million was spent on research during the year, exclusive of laboratory construction and technical assistance to manufacturing and sales. In 1957 \$15 million was spent on research. The company reports that its annual program of aid to scientific education will involve grants totaling about \$1,150,000 to 135 institutions for the 1958-59 academic year.

### Hyster Co. Acquires Martin Machine Co.

Merger of the Hyster Co. of Portland, Ore., with the Martin Machine Co. of Kewanee, Ill., has been announced by Philip S. Hill, Hyster executive vice-president. Hyster Co., with no change in name, is now a Nevada corporation.

### Chemstrand Sales, Earnings Raised To New Record Levels

The Chemstrand Corp. in 1957 celebrated its fifth anniversary as a producing company by lifting both sales and earnings to new record levels. Sales amounted to \$146,042,845 or 36% above the previous record high volume of \$107,083,556 achieved in 1956. Net income after all charges and taxes was \$20,054,608 or 66% above the net income of \$12,195,000 reported for 1956. The annual report points out that sales of Acrilin acrylic fiber were up 183% over 1956, and sales of Chemstrand nylon increased by 29%. All of Chemstrand's capital stock is owned by two companies—Monsanto Chemical Co. and American Viscose Corp.

### Virkler Chemical Co. Agent For Amalgamated Chemical

Virkler Chemical Co., Greensboro, N. C., has been appointed Southern representative for Amalgamated Chemical Corp., Philadelphia, Pa., manufacturer of a line of chemicals for the wet processing industry.

### Whitin Machine Workers Approve New Contract

Members of the United Steelworkers Local 3654 recently approved a new one-year contract with Whitin Machine Works, Whitinsville, Mass. The contract calls for a six-cent hourly wage increase but otherwise varies little from the previous contract, it was reported.

### Dow Gives New Address For James River Division

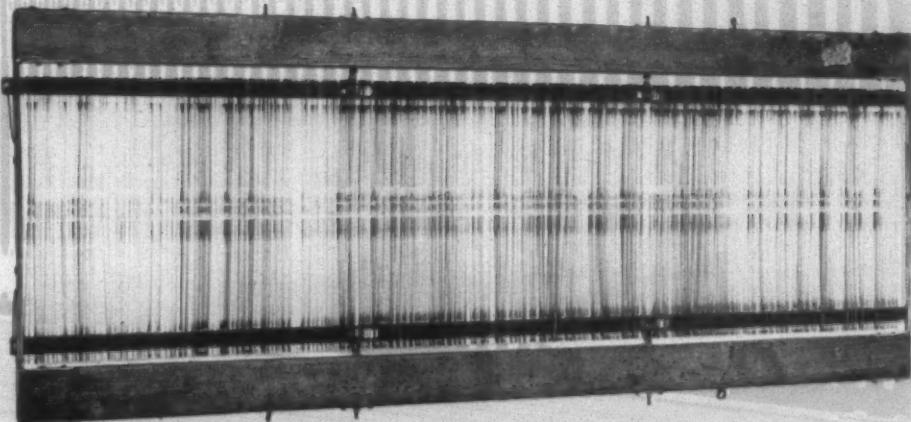
The Dow Chemical Co. has announced a new address for its James River Division. It is: The Dow Chemical Co., Textile Fibers Department, James River Division, Williamsburg, Va.

# 20 TROUBLE-FREE YEARS

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## from this Stehedco DRAWTEX HARNESS

Here is an unretouched photograph of one of the original Stehedco Drawtex Harness Frames with the original Heddles after giving more than twenty years of continuous trouble-free service. Here is ample proof of the fine quality and exceedingly long life built into every Stehedco product.



Ever since the revolutionary Stehedco Drawtex Harness was first introduced it has become increasingly popular because of its exceptional versatility and dependability for increasing loom efficiency and producing better quality goods at lower cost.

Ask our qualified Field Engineers to show you how Stehedco Drawtex Heddles and Frames can greatly improve YOUR production efficiency and economy.

Other Plants and Offices: Granby, Quebec, Canada — Lawrence, Mass. — Greensboro, N.C. — Atlanta, Ga. — Textile Supply Co., Dallas, Texas — Albert R. Breen, Chicago, Ill.



# textile bulletin

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A.C.M.I. Convention

## A Three-Day Glance In The Looking Glass

By JACK HOLLAND

A SERIOUS self-examination of the textile industry and the problems that confront it was made by its leaders at the ninth annual convention of the American Cotton Manufacturers Institute held at Hollywood, Fla., April 10-12. The three-day program was presented by textile men, and the only non-textile speaker was Senator Richard B. Russell of Georgia, but what he had to say was dear to the hearts of the industry leaders who punctuated his address with gusty applause.

Halbert M. Jones, president of Waverly Mills, Laurinburg, N. C., moved up from first vice-president to president, succeeding L. G. Hardman of Harmony Grove Mills, Commerce, Ga. James A. Chapman of Inman and Riverdale Mills, Inman, S. C., was elected first vice-president and J. M. Cheatham of Dundee Mills, Griffin, Ga., was made second vice-president. Robert C. Jackson was re-elected executive vice-president and F. Sadler Love was renamed secretary-treasurer.

### Industrywide Unity

The leaders, in making a prognosis of the industry's ills, called for industrywide unity for regaining a better position in the nation's economy and for government action to allow that strengthening to come about. Government action, and its inaction, was underscored again and again at nearly each session of the convention but textile men were quick to agree there was no panacea to place the industry in a stronger position.

In the opening address by the president, Mr. Hardman said, "Our industry, both the cotton and man-made fiber segments, are beset by a group of problems which at times seem so complicated they defy solution. To add to the perplexities born of these problems, the fact remains that entirely too many of them were created by influences outside our own industry. Nevertheless, the work of finding the solutions rests largely upon each of us within this industry, its leadership and its friends. Now, if the solutions are to come in time to be influential upon the future well-being of the industry—its tomorrow—then work is necessary today."

In specific areas of concern, Mr. Hardman had this to say:

**On cotton**— "The reshaping of the laws governing the production and marketing of cotton is a must—particularly if the American cotton farmer is to have the support of a strong market at home and abroad. Adoption of a one-price system on cotton is mandatory if the good of all concerned is to be served. When the cotton problem is solved it is apparent that this industry will have made a giant stride in the desired direction toward stability."

**On imports and foreign trade**— "Stability in the textile industry will be nothing more than a dream until the constant threat of uncontrolled foreign competition is dealt with in a practical manner. With the joining of the forces of the National Federation of Textiles and the cotton segments of our textile production, certainly we are presenting a united front on this all-important issue. Of course, we don't want to throw up a high wall around our country and completely prohibit imports of foreign textiles. However, this industry does feel that such imports should be controlled by the U. S., not by any other nation or international agency. Most certainly they should not be permitted to seriously damage or destroy vital segments of our economy. The time is long past due for the formulation of federal policies which are more mindful of our obligations to our own economy—to our own folks."

**On research and education**— "We cannot progress unless we have forward-looking, bold research programs which cover everything from the development of new and better fibers, materials and machinery, to the development of new and better markets."

**On merchandising**— "This industry, filled with men of great ability and integrity, still frequently seems to be burdened with the fact that many of us fail to take cognizance of the plain economic facts around us. It appears that often in merchandising our goods, we fail fully to utilize the abundance of common sense and ability at our command, thereby damaging ourselves and those to whom we are responsible. We exercise character in so many things

we undertake to do, but I wonder if at times we exercise character in merchandising our products and our industry?"

### Reciprocal Trade Program

As if in direct answer to some of Mr. Hardman's remarks, Senator Russell, whose talk concluded the convention program, said that he had supported the original Reciprocal Trade Agreements Act and the original Marshall Plan and that he still believes in the original concept of the Reciprocal Trade Program. "But I shall not support a program to liquidate vital American industries, to throw thousands of American citizens out of work in order to create an economy in some foreign land suitable to some dreamer in the Department of State merely because the bill bears the title of Reciprocal Trade Program," he said.

The Senator accused the State Department of using the trade program as a political weapon rather than to stimulate trade as it was originally intended. "In the last analysis, the Free World is dependent upon the armed strength and the powerful industrial complex of the U. S. to prevent war and to confine Communist aggression. We cannot maintain the necessary military strength nor the industrial plant essential to its support if we kill the industrial goose which lays the golden egg of taxes by pursuing unrealistic and unnecessarily expensive policies and programs.

"I am aware of the importance of a strong Japan to the Free World. However, the American textile industry is essential to the maintenance of a strong America. Our friends throughout the world know in their hearts that the Free World cannot of itself contain Communism any longer than America is able to maintain the military force which deters aggression.

"Figures are often given as to the number of people whose jobs are claimed to be dependent upon the Foreign Aid and Reciprocal Trade Programs. It would be interesting to know just how many of the five and a half million Americans who are now unemployed have lost their jobs due to the policies and programs of the Department of State.

"If means are not found to change the present operations

of the State Department that will sacrifice any and all things at the demands of foreign countries, we can produce an unemployment situation in this country that will pull down the whole structure of our government."

Senator Russell said the U. S. has spent more than \$0 billion dollars in foreign lands since World War II in aid programs and is committed to agreements and treaties that obligate the nation to respond to an attack of 42 countries. He also said an effort will be made in the Senate to amend the Mutual Security Act to give distressed American industries priority over foreign suppliers in the procurement of commodities in the aid program.

### Textile Economics

At Thursday afternoon's session "Economics of the Textile Industry" was presented in two parts with F. E. Grier, president of Abney Mills, Greenwood, S. C., and chairman of A.C.M.I.'s Economic Policy Committee, presiding.

Halbert Jones gave "An Economic Analysis," saying, "The basic difficulty of the textile industry is the periodic accumulation of excessive inventories at every level of the textile consumption pipeline."

The approaches used by the Economic Policy Committee in formulating a program were outlined by Mr. Jones. The two approaches were: study of market data and economic information in order to know at any time the status of the industry, and enlargement of the needs of the consumer by creating new needs and new demands through research and promotion. "Neither approach can be substituted for the other," he said, adding that the leadership of the industry is determined to improve the poor economic record of the industry.

### Fiber Consumption

Mr. Jones was followed by William E. Clark, vice-president of U. S. Rubber Co., New York City, who spoke on "Our Problem," and William E. Reid, president of Riegel Textile Corp., New York, whose topic was "Development of a Plan."



Jones, Chapman, Hardman, Cheatham

Halbert M. Jones, president of Waverly Mills, Laurinburg, N. C., was elected president of the American Cotton Manufacturers Institute at the group's ninth annual convention at Hollywood, Fla. He succeeds L. G. Hardman of Harmony Grove Mills, Commerce, Ga. Elevated from second to first vice-president was J. A. Chapman of Inman and Riverdale Mills, Inman, S. C. J. M. Cheatham of Dundee Mills, Griffin, Ga., was elected second vice-president.

Decrease in consumption of textile fibers during the 1947-1957 period was discussed by Mr. Clark, who said, "There is every indication that 1958 will show an even greater decline; that the profit ratio on sales for the textile mill products industry fell from 8.2 to 2 per cent, with the return on net worth declining from 19.5 to 4 per cent, based on 1957 results." Substitution of non-textile materials; introduction of new and stronger and more durable textile fibers, and changes in social and competitive conditions were blamed for this decline.

### Market Research

Taking the point from there, Mr. Reid explained that the textile industry could learn from other industries concerning market research and expansion, saying, "If other industries can work together effectively in market research and expansion, then the textile industry can also."

Recommendation of the committee report was that the textile industry must embark on an extensive market development and expansion program if it is to halt the continuing drop in per capita consumption of its product.

### National Policies

J. M. Cheatham, president of Dundee Mills, newly elected vice-president of A.C.M.I., reported on national policies as related to textiles at the Friday morning session of the convention. Among subjects touched on were good faith pricing; state rights; labor legislation; the Walsh-Healey Act; and federalizing of state employment security systems. He concluded that the textile industry should take a more active interest in politics.

### The Cotton Policy

C. A. Cannon, president of Cannon Mills Co., Kannapolis, N. C., reported on the national cotton policy, following a report on tax policy by Andrew J. Cothran, secretary of the Graniteville (S. C.) Co. A prediction that man-made fibers will overtake cotton in consumption in the U. S. by 1965, if present trends continue, was made by Mr. Cannon, who also blasted government cotton controls and Secretary of Agriculture Benson. The two-price system of cotton marketing came in for special condemnation by Mr. Cannon as did the lack of a long-range cotton program to meet competitive conditions. Relief from this situation, Mr. Cannon said, "must come from the halls of Congress . . . we can expect little help from the Department of Agriculture in the future, for we have received little in the past."

A discussion of foreign trade policy by J. Craig Smith, president of Avondale Mills, Sylacauga, Ala., concluded the Friday morning's session.

### Economic Outlook

Dr. R. Buford Brandis, chief economist for A.C.M.I., reported on the textile outlook, saying that prospects for continued decline in sale of textiles was in view. He made a hit with the listeners when he explained the Devil Theory of Economics: "These controllers have a very simple program—if it moves, control it; if you cannot control it, tax it; if you cannot tax it, subsidize it. If this economy can avoid that sort of a program, we can come through this recession without permanent injury," Dr. Brandis said.

Robert C. Jackson's report on A.C.M.I. activities was

## J. M. Cheatham



J. M. Cheatham

J. M. Cheatham, new second vice-president of the American Cotton Manufacturers Institute entered the textile business in 1933 as a trainee at Rushton Cotton Mills, Griffin, Ga. He transferred to Dundee Mills in Griffin in 1936 as a salesman. He became assistant to the president and then vice-president in 1942. He succeeded

his father, John M. Cheatham, as president of Dundee in March 1950.

In addition to his position at Dundee, Mr. Cheatham is president and treasurer of Lowell Bleachery, South and Rushton Cotton Mills, both in Griffin, and president and treasurer of The Hartwell Mills, Hartwell and Toccoa, Ga. He also is a director of The State Bank, Griffin, Ga., and a trustee of the Georgia Baptist Foundation.

Mr. Cheatham, who is concluding a tour as chairman of A.C.M.I.'s Foreign Affairs Committee, was president of the Cotton Manufacturers Association of Georgia in 1952-53 and treasurer of the Textile Education Foundation in 1957-58. He is a former member of the A.C.M.I. board of directors. He attended Furman University and Georgia Tech. His election to the post of second vice-president puts him in line for the presidency of the association two years from now.

given prior to Senator Russell's talk. A luncheon meeting of the new board of directors officially ended the 1958 convention. It was announced that the 1959 convention will be held at Palm Beach, Fla.

### New Board Members

Named to the board of directors for one-year terms were R. Stewart Kilborne of William Skinner Sons, New York City, and Alan B. Sibley of Judson Mills, Greenville, S. C. Named to a two-year term was Robert M. Schwarzenbach of Schwarzenbach-Huber Co., New York City.

Others named to the board, for terms expiring in 1961, were John B. Clark, Coats & Clark, New York City; Marshall Y. Cooper, Harriet & Henderson Cotton Mills, Henderson, N. C.; Edward P. Ix, Frank Ix & Sons, New York City; R. Houston Jewell, Crystal Springs Bleachery, Chickamauga, Ga.; W. E. Reid, Riegel Textile Corp., New York City; Julian Robertson, Erlanger Mills, Salisbury, N. C.; Ben R. Rudisill, Carlton Yarn Mills, Cherryville, N. C.; James C. Self, Greenwood (S. C.) Mills; and Henry McD. Tichenor, Walton Cotton Mills, Monroe, Ga.

Named to the executive committee were Malcolm G. Chace Jr., Berkshire Hathaway, Providence, R. I.; Ceasar Cone, Cone Mills Corp., Greensboro, N. C.; Roger Milliken, Deering, Milliken & Co., Spartanburg, S. C.; D. H. Morris III, Geneva (Ala.) Cotton Mills; Julian Robertson, James C. Self, Halbert M. Jones, James A. Chapman, J. M. Cheatham, L. G. Hardman Jr., Edward P. Ix and R. Stewart Kilborne.

# Some Production Highlights On The Manufacturing Of High Loft Spray Bonded NONWOVEN FABRICS

By FRANCIS M. BURESH, Textile Consultant

This article covers in detail one specific type of non-woven\* fabric manufacture which was briefly described in the "Special Report On Current Activities In The Field Of Non-Woven Textiles" in the October 1957 issue of Textile Bulletin. Detailed photographs and a schematic drawing are included to emphasize each phase of the process.

HIGH LOFT or spray bonded nonwoven fabrics are currently being produced by at least four domestic nonwoven mills and their growth in usage has been very rapid over the immediate past replacing conventional glazed waddings and carded or garnetted batts in many applications. In our later reports we expect to cover other manufacturing methods in detail including saturation or pad bonding, fiber bonding, synthetic fiber needling, etc., as well as go into more detail on product engineering, product applications, fiber and binder systems, etc.

## Machine Layout

The accompanying photographs and sketch represent an actual mill installation of a Model 60 (60-inch fabric width) High Loft nonwoven fabric line with double spray finish. The stock flow in the photos reads from right to left. The sketch of the machine layout reads left to right. The machines shown are: (1) Kirkman-Dixon single cylinder opener; (2) Curlator Corp.—Rando-Feeder and Rando-Webber, Model 60B; (3) spray booth and horizontal re-

\* Mr. Buresh, who by any standard is an acknowledged authority on the subject of nonwoven techniques, has chided us on the use of the hyphen in the term nonwoven. The hyphen, he points out, implies an "as opposed to woven" connotation. The nonwoven subcommittee of Committee D-13 of the A.S.T.M. and a similar group representing the A.A.T.C.C. believe the omission of the hyphen constitutes a more positive term. Ordinarily, as a matter of editorial pride, we don't change anything but our socks, but in this instance we acquiesce in view of what we consider a logical argument. And now, back to our story on high loft spray bonded non-wovens.

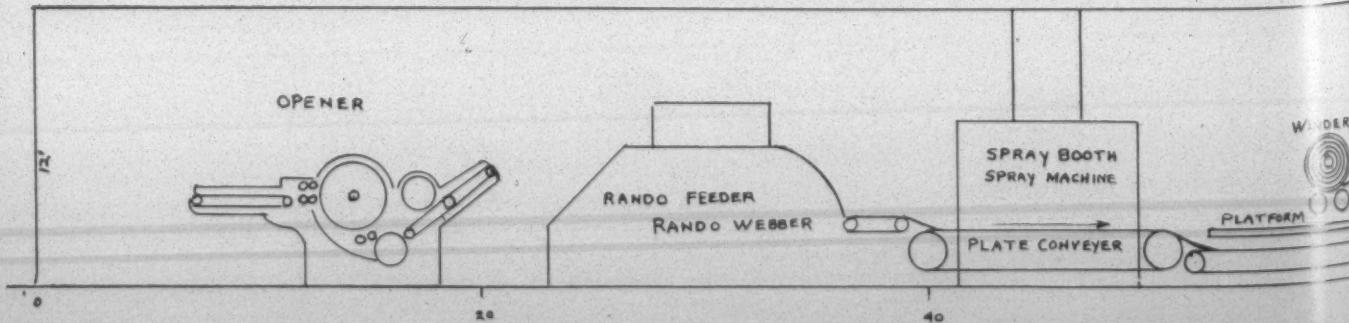
ciprocating spray machine, Binks Mfg. Co.; (4) steel parts conveyor in the spray booth; (5) infra-red lamp type drying and curing oven, Fostoria, two flights 240 K.W. total capacity; (6) spray booth and machine to spray the back of the web; (7) winder for crepe paper web carrier or for winding single finish fabrics, if desired; (8) return conveyor on which the stock goes back through the top flight of the oven back to the second winder where double finished fabrics are wound and doffed; and (9) a laminating section where fabrics, plastic films, etc., may be laminated to the high loft web, if desired.

The over-all length of the equipment shown is 107 ft. A minimum floor space of 120x16 ft. with 12 inches head room is required for the line. There must also be working area and storage space for raw stock and finished fabric.

## Costs Of Line

The line shown costs an approximate \$80,000 for machinery plus \$30,000 for installation, site preparation, service facilities, (drains, electricity, water) and engineering expense. In some cases an additional expense of \$15,000 is incurred for the installation of transformers and electrical switch gear if the mill location selected is not provided with sufficient electrical capacity.

The above expense is only for one line of machinery ready to run. Authorities in the trade feel that at least three lines are required to set up an operation which can produce a fairly complete line of nonwovens (high loft and saturated sheets plus possibly needle felting and some fabric finishing equipment). Actual costs will be nearer one-half million dollars by the time the lines are running in full production. This usually takes at least a year of pilot operation to develop acceptable products and to obtain satisfied customers. Management must be willing to bear these start-up and development costs or "losses" for a period because of the highly technical nature of the



operation and the newness of the products and their applications.

#### Production Details

The production rate of the line varies between 80 and 200 pounds per hour of finished fabric or 100 to 600 linear yards per hour depending upon the stock used, the weight of the product (can be varied between 1.25 and 10 oz./sq. yd.) and the quality level required. Generally higher poundages can be obtained on the medium and heavy weight products.

Under good operating practices with well trained personal, operating efficiencies can reach 85 per cent on one-shift operation and up to 90-92 per cent on two and three-shift operation. Good production practice requires a complete blowdown of the web forming equipment every four hours and a complete change of spray guns. This can be accomplished in a 10-15 minute servicing period. Production costs are approximately \$27 per hour including labor (three men), overhead, electric heat and power, etc. The power requirement is 300 K.W. hours.

#### Fabric Range

The wide range of products which can be produced on a line such as this one includes:

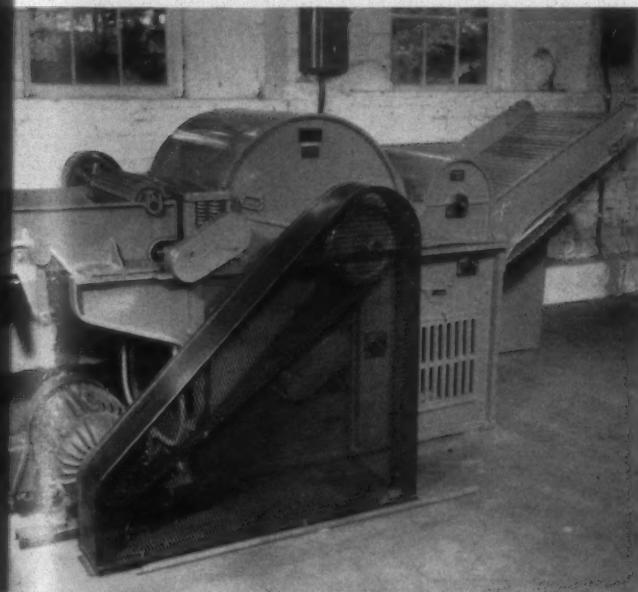


Fig. 1—The stock is opened on this single-cylinder, Kirkman-Dixon opener.



Fig. 2—The opening machine delivers the stock to the hopper of the Rando-Feeder made by The Curlator Corp.

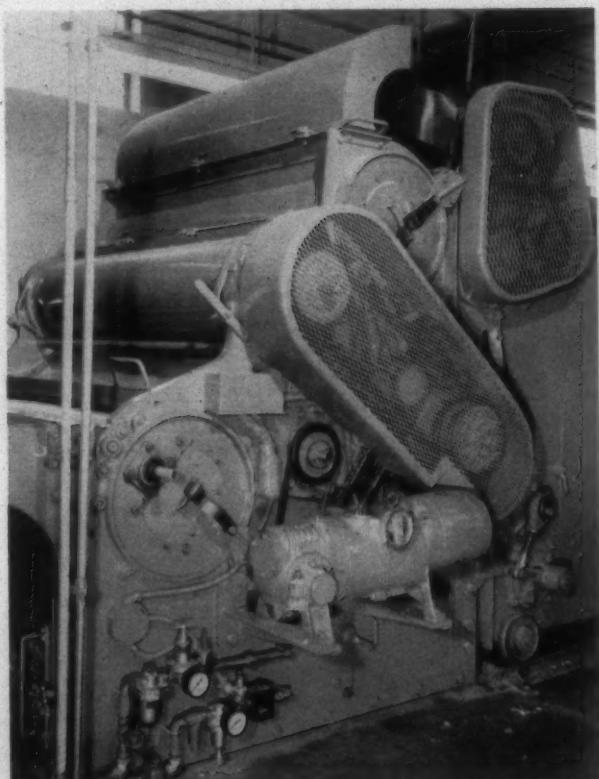
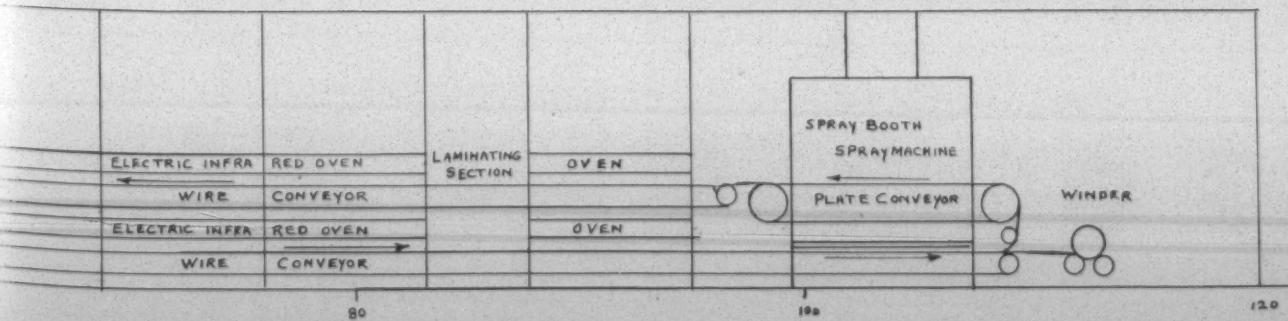


Fig. 3—The Rando-Webber receives stock from the Rando-Feeder and delivers a web on a slatted apron.



#### A. Industrial and automotive

- (1.) Automotive plumpers
  - (a.) door panels
  - (b.) seat backs
  - (c.) seat bolters
  - (d.) trim
- (2.) Filters
  - (a.) air conditioners
  - carburetors
  - industrial
  - (b.) chemical
  - (c.) milk
  - (d.) oil
  - (e.) water
- (3.) Packaging Waddings

#### B. Apparel

- (1.) interlinings
- (2.) shoulder pads

#### C. Bedding

- (1.) comforter interlinings
- (2.) mattress felts
- (3.) mattress pads
- (4.) pillow stuffers
- (5.) sleeping bags

#### D. Household Items

- (1.) closet accessories—electronically quilted
- (2.) rug pads

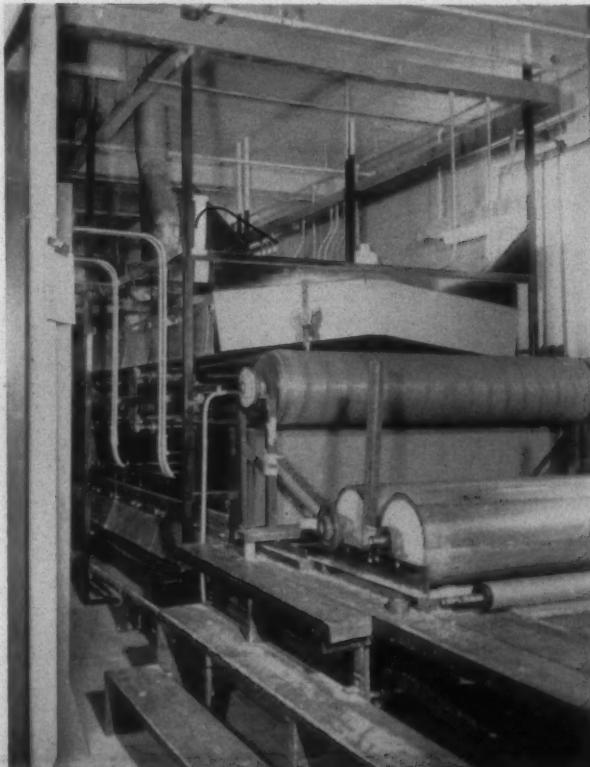


Fig. 5—After spraying, the web enters this two-flight infra-red lamp type drying and curing oven. The total capacity of the booth is 240 k.w. After completing the return trip, the dried fabric is wound on the wooden rolls (*foreground*).

#### E. Disposable Surgical & Personal

- (1.) absorbent pads
- (2.) personal items

#### F. Miscellaneous

- (1.) casket linings

The big volume items have been automotive plumpers and other types of electronically quilted plastic fillers. We feel the next big market growth will be in the apparel and bedding fields using the better grades of synthetic fibers such as nylon and the acrylics because of the extremely high bulk-weight ratio, soft hand, warmth and bulk recovery

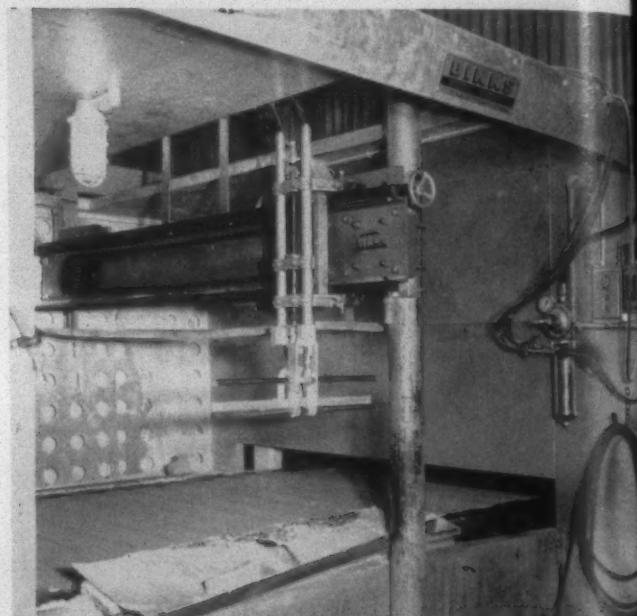


Fig. 4—The web is transported on a steel parts conveyor belt in this spray booth with a horizontal reciprocating spray machine made by Binks Mfg. Co.

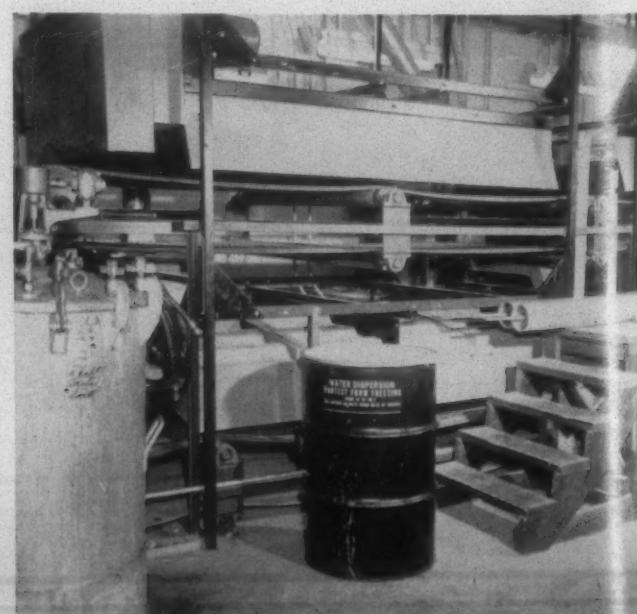


Fig. 6—The web is dried and cured as it travels along the length of the infra-red drying oven. Note the two levels in the oven. The first pass is made on the lower level.

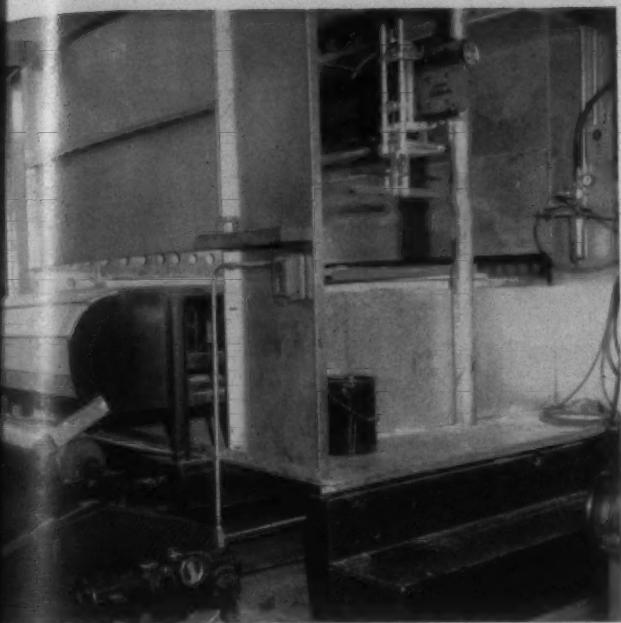


Fig. 7—The dried web is delivered from the lower level of the oven. It may be either wound into rolls on the winding head at the left or may be transferred to the upper level for further spraying, drying and curing.

properties. Also, these fibers are quick drying and more dimensionally stable than the cellulosics.

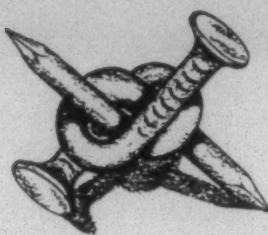
#### Fibers Used

Viscose and acetate are the big volume fibers in the high loft field followed by nylon, wool, the acrylics (Acrilan, Dynel and Orlon) and Dacron polyester fiber. A great deal of blending of two or more fibers is common as well as the careful blending of fiber deniers, lengths, crimp levels, etc., to obtain an engineered fiber structure to produce the right thickness, resilience, filtration characteristics, etc. Cotton is conspicuous by its absence in this field as it has poor loft and resilience and it is difficult if not impossible to obtain "electrically clean" stock for electronic quilting. Most of the fibers used are virgin staple except in the case of nylon and wool garnets of the higher grades.

The chemistry of the binder systems is an art in itself and an experienced rubber chemist with full co-operation from the major chemical suppliers is a must for a successful operation. Most firms do their own blending and compounding of the water emulsions used. The important systems used are the nitrile rubbers, acrylics and polyvinyl chlorides with melamine and zinc oxide and sulphur cures used for washability and dry cleaning resistance where required. The fiber-binder ratios can vary between 90-10 and 50-50—generally about 2 fiber to 1 binder—much heavier add-on in the case of high lofts than for saturated fabrics.

#### Conclusion

In summing up we may say that the one quality high lofts have which is outstanding over competitive products (waddings, foam rubber and urethane foam) is their extremely high bulk-weight ratio. They weigh only one to two pounds per cubic foot. Being a textile product they have better hand, bulk, are softer and warmer and feel like a textile product rather than a firm, rubbery, bouncy plastic sheet.



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# The Clarkson Cord Former

## U. S. Rubber Develops New Machine For Production Of Nylon Tire Cord

A new machine that performs in a single operation a cord forming and winding job conventionally done by three separate machines has been unveiled by the United States Rubber Co. The following data is based on the performance of a 48-spindle production unit of the machine now in operation at U. S. Rubber's Winnsboro, S. C., plant. The article also includes a report on the company's current activities in the textile field.

A MACHINE that automates production of nylon or rayon tire cord has been invented by R. J. Clarkson, a U. S. Rubber Co. textile development engineer at the company's Winnsboro (S. C.) Mills. This is the starting point for manufacturing tire cord fabrics, one of the country's largest single uses of textiles. Named the Clarkson Cord Former, the new machine performs in a single operation a cord forming and winding job conventionally done by three separate machines. It is also reported to operate at approximately twice the speed of standard tire cord twisting machines and to produce a large precision-wound package.

More than a year's experience with the new 48-spindle production machine indicates that it will save 54 per cent in floor space, require 62 per cent less manpower, cut the number of knots in tire cord by 75 per cent, reduce waste

by 77 per cent and lower investment for additional capacity by 44 per cent, according to the company. U. S. Rubber holds a patent on the Clarkson Cord Former, but reports that it is considering licensing other firms to use it.

### A Significant Development

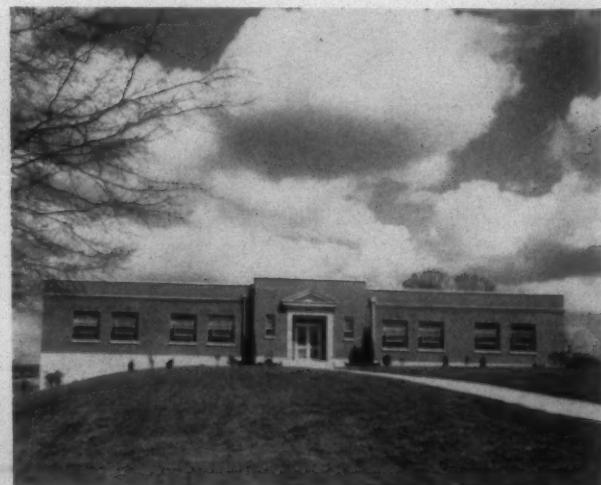
"A mechanical development of this kind is very significant, especially at the present time," William E. Clark, vice-president and general manager of the textile division of U. S. Rubber, said. "This new machine, which will be used primarily for nylon tire cord, makes its appearance at a time when demand for nylon tire cord is increasing. There are ten times more nylon tires on the road than there were five years ago, and in the past year there has been a 60 per cent increase in their sales in the passenger tire field. Last year nylon tires were a minor factor as original equipment. However, 11 out of 18 individual automobiles will offer nylon tires as an option this year. There is a positive rate of growth in the use of nylon tires."

"Since yield per spindle is less on nylon than on rayon, the nation's tire cord producers must do one of two things to meet this growing demand—they must either add more spindles, or install automated equipment such as the Clarkson Cord Former," Mr. Clark said. "An advantage of the Clarkson Cord Former is that it will enable tire cord producers to meet this demand without adding floor space," he added.

U. S. Rubber has plans for the installation of these machines as the need for additional nylon tire cord increases.



R. J. Clarkson, inventor of the Clarkson Cord Former, is shown threading metering rolls. Employing a principle unique in textile machinery, one set of metering rolls operates within a revolving balloon. The metering rolls insure uniform length of the two strands thereby increasing load bearing capacity.



This laboratory at Winnsboro, S. C., is headquarters for research and development for U. S. Rubber's textile division. It is equipped with all types of testing equipment, pilot machinery and mechanical devices for the development of the company's textile products.

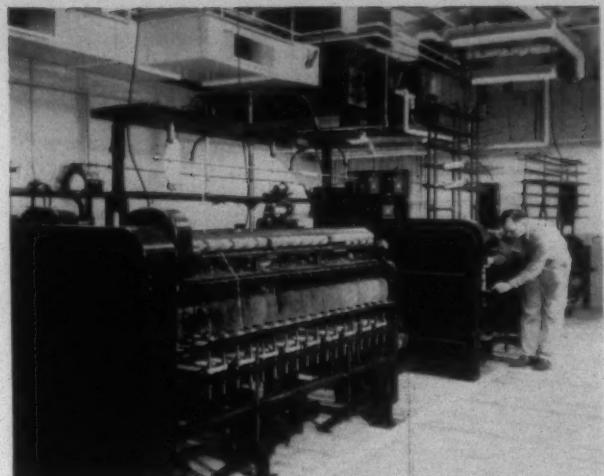
The first installation will probably be at the company's textile mill at Shelbyville, Tenn., early in 1959. This installation will be for 1,120 spindles, and will provide an estimated capacity of 2.5 million pounds of tire cord a year. As to the effect on employees, Mr. Clark said, companies that have modern equipment such as this will be able to operate more efficiently and provide greater stability of employment. Also, much of the labor now required in the transporting of packages will be eliminated.

#### How It Works

The machine is supplied by a giant, multiple-end beam, an economical bulk yarn package which helps hold down operating costs. The quality of tire cord it produces is reported to be equal to or better than that produced by conventional machines. Micro-photographs, the company said, show that tire cord made by the new machine is more uniform and compact. The new unit differs basically from conventional tire cord machines by using a wrapping, rather than twisting, operation to form tire cord. It also uses metering rolls to control the flow of the yarn strands being wrapped together, so that the finished tire cord is made from yarns of equal length. This enables the strands to bear a load evenly.

In conventional tire cord machines, two yarn strands are individually twisted a specified number of turns per inch. Then the twisted yarns are brought together and twisted again an identical number of turns, this time in the opposite direction. This reverse twisting intertwines the yarns to form the tire cord, and gives the individual strands a near "zero" twist.

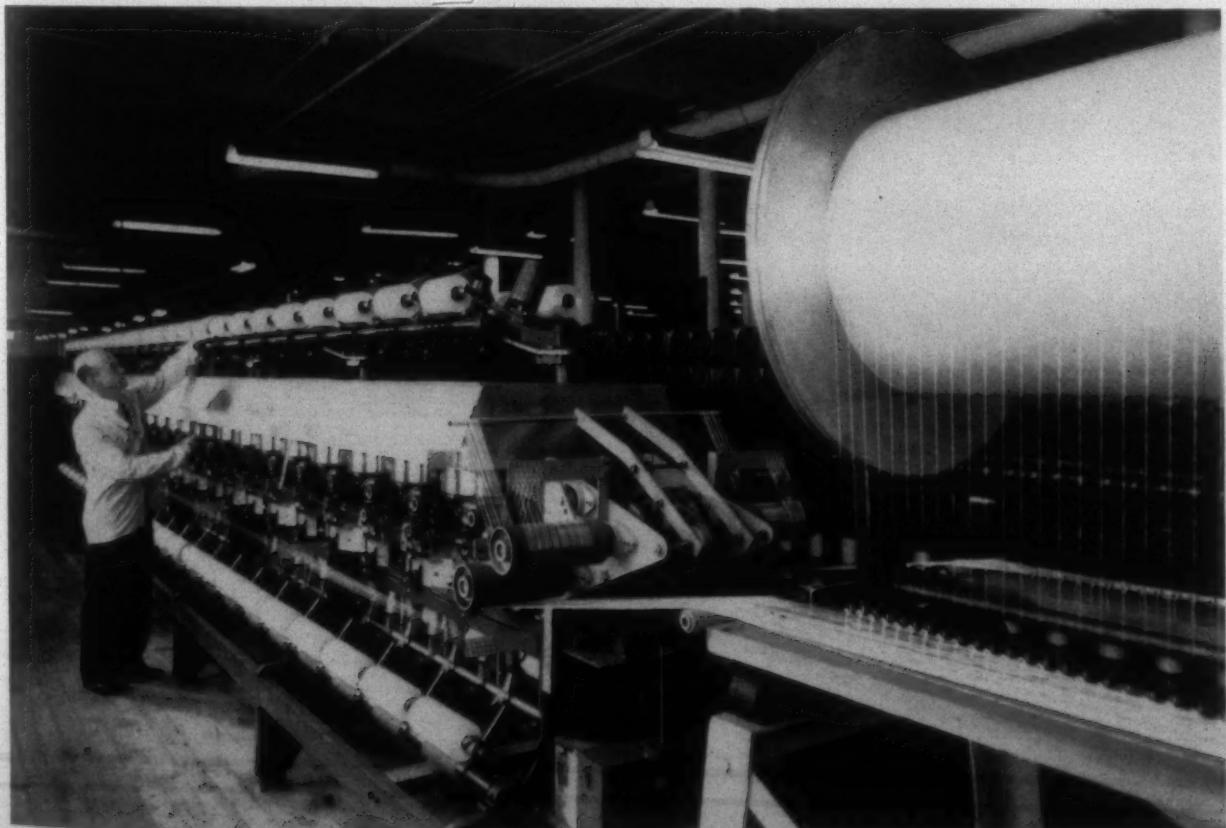
In the Clarkson Cord Former, one strand of yarn is put



U. S. Rubber's textile development laboratory at Winnsboro, S. C., serves the company's 11 mills in North and South Carolina, Georgia, Tennessee, Virginia and New Hampshire. The spinning and twisting frames shown here are used to develop new techniques and new fiber blends.

into swirling motion by a disk mounted on a hollow spindle. The disk and spindle revolve at 8,000 r.p.m. causing the yarn, fed through metering rolls from a beam at the end of the machine, to balloon. Within this blurred balloon formed by the rapidly revolving yarn strand is a second package of yarn which is being metered to the junction point of the strands.

The second yarn package is mounted on bearings at the top of the revolving spindle. To prevent this package from revolving, magnets are mounted in the package holder and



This over-all view of the Clarkson Cord Former shows winding single strand packages at the top, forming spindles in the middle, finished tire cord at the bottom and the beam supply package in the foreground.

## R. J. Clarkson

THE inventor of the Clarkson Cord Former, R. J. Clarkson, has been responsible for a number of important developments during his career as a textile development engineer with the U. S. Rubber Co. He had a prominent part in two major company developments, stretchable cotton yarn and wet spinning of Asbeston, a light-weight asbestos cloth which is produced in U. S. Rubber's Hoganville, Ga., plant. He holds 11 patents and has four patents pending as a result of his developments in the textile field.

Mr. Clarkson joined U. S. Rubber in December 1933 following his graduation from Clemson College where he received a B. S. degree in textile engineering. His first assignment was as a technician for the research and development laboratory of the company's textile division which was then located at Hogansville, Ga. In March 1942 he joined the U. S. Army Ordnance Department at Aberdeen Proving Grounds. He served there as a captain directing the testing of conventional and experimental small arms. Upon his release from service in January 1946 he returned to U. S. Rubber as a development engineer at Winnsboro, S. C.

in fixed mounts just below the revolving disk, thus holding it stationary at the spindle turns. From this second package a yarn strand is fed through metering rolls into the hollow spindle where it is wrapped, with the yarn strand swirling at 8,000 r.p.m. From the spindle the tire cord is precision wound onto packages weighing as much as 40 pounds.

The machine is electrically driven, using one motor to turn every four spindles. On each spindle, the two sets of metering rolls have a common drive to insure uniform yarn length. The machine can be stopped or started from any point along its length by a cable control which runs completely around it. It also has tension-stop switches which automatically shut the machine off if a strand breaks.

The 96-strand beam-type supply unit for the 48-spindle machine holds approximately 1,200 pounds of nylon or rayon yarn. One-half of the strands are fed directly to the 48 spindles. The other half are automatically wound onto packages which are used to replenish the strands inside the revolving balloon at approximately 40-hour intervals.

### Some Limitations

The limitations of the new machine, now in pilot operation at the Winnsboro, S. C., plant of the rubber company's textile division, are that it can only produce a two-ply tire cord cable and it can only be used with multi-filament yarn such as nylon or rayon.

Mr. Clarkson first began work on the Clarkson Cord Former in 1941, then was forced to put the project aside during World War II. In 1948 he took up the project again, and the current 48-spindle machine is the fifth prototype that has been constructed.

### Textiles And The Rubber Industry

In explaining U. S. Rubber's role in the textile industry, the company points out that textiles are second in im-

portance only to rubber in many of the products turned out by the rubber industry and that it was quite logical for U. S. Rubber to enter the textile business to assure the quality of its finished products. Most large volume rubber products contain some textiles which are essential to satisfactory performance. Textiles allow control of rubber's stretch and, at the same time, take advantage of its flexibility. They also add strength to some of its finished products.

Textiles have also offered the company a chance for diversification and future growth. U. S. Rubber's textile division is reported to rank among the 15 largest textile producers in the nation and to be the largest textile operation in the rubber industry.

The company's history in the textile field shows that it has grown from one mill to 11 and from one product, cotton tire cord, to 750 different products; has increased production to 120 million pounds of textiles in 1957 from less than one-third that amount 20 years ago; has increased its total volume eight-fold in the past 20 years; has grown from 25,576 spinning spindles to 126,712 spinning spindles plus 41,774 ply twisting spindles for nylon and rayon tire cord; and has increased its employee force from 315 to 4,537, including 317 with 25 years or more of service with the company.

Intensive research and diversification and increasing sales

## What Lies Ahead?

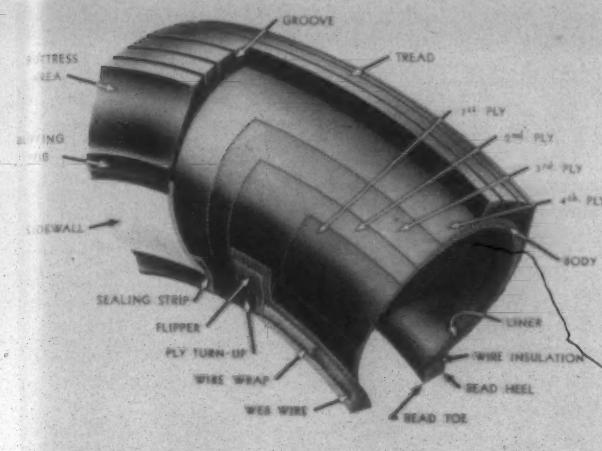


W. E. Clark

WITHIN the next five years the nation's textile industry can expect to reach a new level of profit and sales opportunity, one higher than any yet experienced, according to W. E. Clark, vice-president and general manager of the textile division of the U. S. Rubber Co. Mr. Clark made his prediction at a gathering of news representatives and company officials in Winnsboro, S. C., to view the company's new Clarkson Cord Former.

Mr. Clark said the new level of profit and sales will be brought about by two factors: reduction in the number of spinning spindles and a greatly accelerated increase in population growth in this country. With both these factors at work, he said, the industry will be certain to completely eliminate the large overcapacity which has existed for many years. The immediate future is not so clear, he said, adding that there is reason to believe the industry will show some improvement in the second quarter of 1958 and will show enough improvement in the third and fourth quarters to lead the industry out of its present doldrums.

Mr. Clark expressed cautious optimism for the 1958 sales of U. S. Rubber's textile division. His forecast was based on the company's diversification, and its new products and customer service, backed up by a formalized research program. He reported that the company has invested heavily in research and development of new products and in a more diversified product line and that investment in that direction will be even heavier in 1958.



The strength in a modern tire is supplied by its plies of cord, evident in this cross-section of a U. S. Royal tire. Engineers say that textiles are to a tire what steel cables are to a suspension bridge. U. S. Rubber acquired its first textile mill 40 years ago for the manufacture of tire cord. Today it turns out 750 different products, but tire cord and chafer fabric still account for the largest volume of its output.

to customers outside the company are given as the reasons for this growth. Twenty years ago, the company said, the textile division began a program of expansion into outside markets. Today, nearly half of the division's volume is in sales to customers outside the company.

#### Operates Eleven Mills

The textile division operates 11 mills in five Southern states and New England. The largest of the company's operations is in Winnsboro. At Winnsboro are produced Trilok upholstery fabrics; Orlon and Acrlan knitting yarns; nylon and blended tufting yarns; consumer fabrics; rayon tire cord; nylon and rayon Fiberthin; Ustex yarns; bag sewing thread; and cotton knitting yarns.

Trilok is one of the company's most promising products. It is a three-dimensional upholstery fabric made by interweaving polyethylene yarn and either natural or synthetic yarns. The three-dimensional effect is obtained when the fabric is dipped in boiling water. The polyethylene strands shrink, forming permanent puffs, giving the fabric unusual decorative effects and excellent cushioning properties. It is used in 1958 models of Oldsmobile, Pontiac and Lincoln cars. It is also used for seating in airplanes, helicopters, buses and in yachts. In addition, special types have been developed for such uses as filtration units for swimming pools, protective covers for airplane wings and for use as spacer fabrics in clothing for insulation.

#### Three Georgia Plants

The three plants of U. S. Rubber in Hogansville, Ga., produce cotton tufting yarn; rayon tufting yarn; carpet yarns; weaving yarns; mechanical yarns; hose and belt duck; Ustex duck; synthetic industrial fabrics; Asbeston fabric, tape and yarns.

Ustex is a reinforcing textile made of cotton which has been given a chemical and mechanical treatment to add 50 to 60 per cent to its tensile strength. Ustex yarns are used in fire hose, safety belts, industrial sewing and tying twines, high pressure braided hose, timing belts and wire and cable reinforcements.

Asbeston is a blend of 80 per cent asbestos fiber and 20 per cent cotton. For special uses, the cotton can be replaced by synthetic fibers such as Dynel, Orlon, Dacron and glass, either alone or in combination with cotton.

The Shelbyville, Tenn., plant of the company turns out synthetic industrial fabrics; nylon tire cord; nylon mechanical yarns; rayon and nylon fuel cell fabrics; rayon tire cord; cotton bike fabrics; chafer fabrics—cotton, rayon, nylon; cotton tufting yarns; cable cord; and webbing yarn. Rayon and nylon tire cord are produced at the Scottsville, Va., plant. And combed yarns are turned out at the two plants in Gastonia, N. C.

#### Lastex Rubber Thread

Lastex rubber threads are produced at the plants in Manchester, N. H., Burlington and Raeford, N. C. Lastex is described by U. S. Rubber as its best known textile product. It had its origin back in the 1920s when company scientists discovered a way to force liquid rubber latex through tiny square holes into an acid bath to produce round strings of rubber as fine as a thread. This rubber thread serves as a high stretch core around which textile yarns are wound to produce Lastex yarn. The yarns are used in swimsuits, beach sandals, girdles and other types of underwear, women's shoes, sportswear, athletic goods, hosiery anklet tops, elastic stockings, furniture slipcovers, shirring and embroidery for intimate apparel, dresses and accessories.

U. S. Rubber's development laboratory for the textile division, built in Winnsboro in 1950, contains all types of testing equipment, pilot machinery and mechanical devices for the development and perfection of textile products. The work of this laboratory is co-ordinated with that of the company's research center at Wayne, N. J.

#### Packaging Conference, May 26-28

The American Management Association's annual packaging show and conference will be held in New York's Hotel Statler May 26-28. The 27th National Packaging Exposition, to be held in conjunction with the conference, will be at the New York Coliseum May 26-30. Nearly 400 firms will display the latest in machinery and equipment, materials and supplies, containers and services in more than 130,000 square feet of exhibits at the exposition.

#### Yarn Association Scholarships Awarded

Three North Carolina State College students have been awarded scholarships from a fund provided by the Carolina Yarn Association of Charlotte. Receiving the awards, which are worth \$100 each, were John Kenneth Culbreth of Woodruff, S. C., a sophomore; Willie Lee Hodge of Rutherfordton, N. C., a junior; and John Franklin Nixon of Cramerton, N. C., a freshman.

All three young men, college officials said, are making excellent progress in textile curricula. Hodge is enrolled in textile chemistry. The other two are enrolled in the textile technology program. They were unanimously recommended for the scholastic awards by the School of Textiles Scholarship Committee, headed by G. H. Dunlap, director of the Placement Bureau and student activities in the School of Textiles. The awards were made by the college's Scholarship and Student Aid Committee.

# What Are You Doing About Waste Control

By WILLIAM SPROULE

## PART TWO

**How do you control your waste? Proper waste control can spell out the difference between profit and loss in your plant. Some timely suggestions are contained in the following article, the last of a two-part series on this important topic.**

**A** WEEKLY waste report, such as was presented last month in Part I of this series, shows the waste divisor, the actual pounds of waste, the standard pounds of waste, the actual waste percentages, the standard waste percentages, cumulative waste percentages, and the dollar loss.

Now that the waste report form has been presented, someone must be responsible for working up the waste figures and recording these figures on the waste report. The person responsible for the waste control program will vary from organization to organization depending upon the size of the plant or plants as the case may be. So let's assume the plant is large enough to warrant a man who would be solely responsible for the program. This man will be referred to as the waste supervisor, and his responsibilities will be outlined under the various phases of the waste control program.

### Responsibility And Distribution

The responsibility for the weekly waste report consists of two main categories; first, the collecting, weighing and reporting waste, functions performed by each department and submitted to the waste supervisor; and second, the preparing of the weekly waste report by the waste supervisor from the waste reports furnished by the various production departments and the production reports furnished by the standards department.

The responsibility for the distribution of the weekly waste report rests with the waste supervisor. Persons primarily interested in the waste report are the plant manager, superintendent, department overseers, cost department, mill control department and the standards department.

### Maintenance Of Weekly Waste Report

Should it become necessary to change a standard, a definite procedure should be established. One such procedure would be as follows:

The standard change should first be discussed with the

waste supervisor, who in turn should discuss it with the superintendent and manager. The new standards should be established on the same basis as outlined in Part I. Keeping the waste standards in the waste report up to date makes the waste report currently effective and not just a history record.

Should certain waste classifications continue to appear off-standard week after week, it is time an investigation be made to locate and correct the cause. It is important that an investigation be made promptly and prior to putting too much pressure on departments for excess waste. This often eliminates the possibility of concerned departments disposing of waste so it won't look bad on the report, only to find the actual waste in the mill dump or floating down a nearby creek.

On the other hand a low waste figure may appear regularly on the waste report. And should a low figure show up weekly on vacuum strips it would indicate that the cards are not being stripped properly—resulting in too few short fibers being removed. However, too low a figure usually indicates that the waste has not been collected, routed, weighed or segregated properly.

These off-standard conditions are frequently caused by any one or a combination of the following:

(1) Low grade stock mixed or upgraded into a better mix causing bad running work resulting in excess waste.

(2) Feeding too much waste back in at one time. This normally causes snowballing and conditions keep getting worse.

(3) Waste not being handled properly.

(4) Waste not being reported properly. Results in one waste classification being off-standard on the high side while another waste classification appears off-standard on the low side. (Check points are outlined in a later section to pinpoint such conditions.)

(5) Tenders producing excess waste because they have not been instructed properly, or they have neglected to follow the instructions given them.

(6) Speed and setting changes causing too little or excess waste.

### Check Points And Follow-Up

A waste control program, as all control programs, must have check points to be most effective. Two main check points are:

(1) *Baled Waste vs. Reported Waste*—It is a common practice in most mills to keep a record of all baled waste by waste categories, because most of this waste is sold to waste dealers. This type of waste is normally sold because it is not practical to re-run through production and is classified as non-reworkable waste. The one exception to this might be dust since it is often cheaper to burn this waste than go to the expense of baling it. The price received for dust doesn't warrant the expense of baling and handling.

This check point requires very little extra work on anyone's part since the baled waste and reported waste figures are already available. It only necessitates the recording of these figures and converting them to an index ratio figure for comparative purposes. A large variation in the index ratio over a designated period of time indicates a discrepancy in the waste program or the baled waste report, which should be investigated immediately.

(2) *Production Check Report*—This report is designed to show any variation that may exist between adjusted paid production and cotton input minus waste. Any discrepancy that appears consistently on this report affects the waste report. For a mistake in either production or waste shows an inaccurate dollar loss.

Once it has been established that a variation exists, an investigation should be started to locate the discrepancy. The real task now begins for it is no easy job to locate the actual cause because there are so many possible places that can cause the discrepancies. As a guide in tracing the cause of the trouble a few possibilities are listed below.

Improper allowance for tare weights such as lap pins, trucks, tridents, etc.

Improper identification of tare weights on receptacles or boxes.

Improperly calibrated scales.

Improperly calibrated or faulty revolution counters.

Improperly calibrated or faulty yardage counters.

Improperly calibrated or faulty pick clocks.

Improper length of fold on folders (should show up on cloth weight).

Improperly reporting tare weights.

Improperly reporting revolution counter readings.

Improperly reporting yardage counter readings.

Improperly reporting pick readings.

Improperly reporting size for slashers.

Operating equipment without stock (such as running pickers without producing laps especially when paid on screen revolution basis.)

Operating equipment with faulty stop motion (drawing deliveries running idle.)

Operating slubbers, spinning frames or twisters with excessive idle spindles (idle spindles are those spindles that are not producing whether they are running or not.)

From the above list, which contains only a few of the causes, one can readily see the work involved in locating and correcting the cause of any discrepancy. Since no definite procedure can be outlined, someone must be responsible for locating and correcting these conditions. It should be the responsibility of the waste supervisor working directly with the superintendent or manager. The waste supervisor should be called upon to act as a liaison with the various departmental personnel involved in the investigation.

#### Summary

Much may be gained through the use of a waste control program that is properly installed and maintained. To briefly summarize, the first step should be to obtain the personnel to be responsible for obtaining the necessary information, working it up, training personnel, maintaining, following it up, investigating discrepancies and outlining waste saving technical changes.

In addition, it might be added that it is often less expensive to call on outside assistance from those who specialize in such programs, such as textile consulting firms, just as one would look to outside assistance in establishing predetermined cost control programs, time study procedures and workloads, or even over-all mill cost reduction programs.



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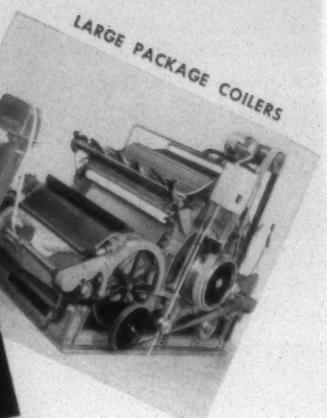
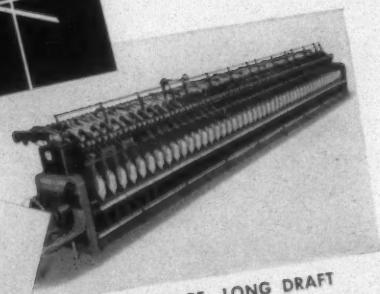
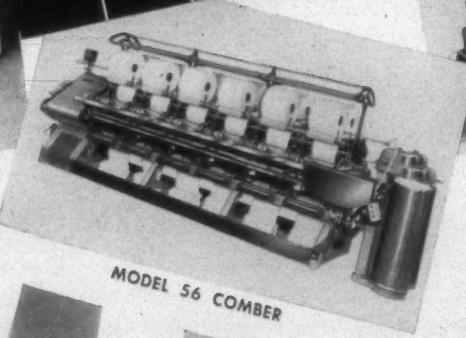
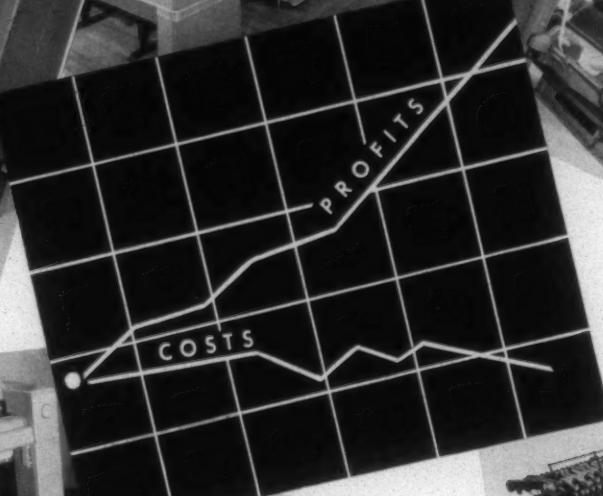
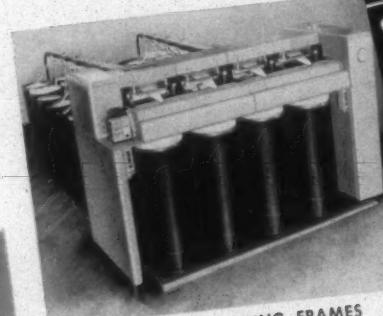
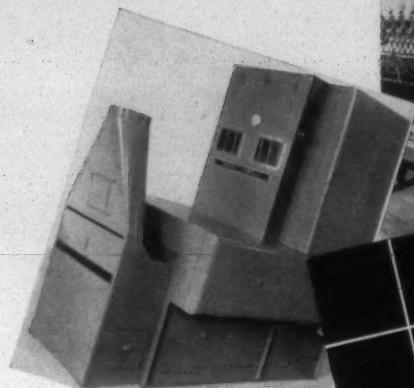


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## Opening, Picking, Carding & Spinning

# Spinning Rings and BLACK MAGIC

Some months ago a report reached us that something new in spinning rings was being brewed in Gaston County, the combed yarn center of the world. Poking an editorial nose into the picture, we found a fellow named Foard mixing a potion he referred to as his black magic. He makes some amazing claims for what it does to a spinning ring, and his claims are being supported by a number of mills using his rings. One, in fact, describes Mr. Foard's process as the most revolutionary advancement in rings in many, many years. The following is Mr. Foard's own story.

SINCE the invention of spinning frames, the focal point of all operators has been concentrated on the ring and traveler. At this point, production of yarn was limited to the amount of speed, or surface feet per minute, the traveler could stand without burning off or its usefulness being destroyed by heat produced from the friction of contact with the ring.

When a traveler becomes overheated due to friction at high speed it becomes soft and particles of soft metal become welded to the surface of the ring. This condition is known as "galling." It is the main factor which can



Fig. 1—A photomicrograph of a highly polished (3-5 R.M.S.) steel surface.



John Foard joined forces with Kluttz Machine & Foundry Co. more than two years ago to concentrate on a new idea he had for improving the performance of spinning rings.

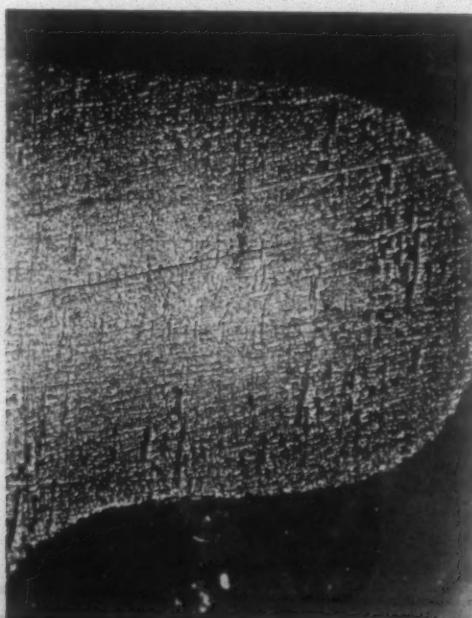


Fig. 2—A photomicrograph of a cross section of one-half of a ring flange after the sulfurizing process. The blackness has penetrated into the pores of the steel almost to the center of the flange.

## OPENING, PICKING, CARDING & SPINNING

impair the running qualities of a ring. It may destroy entirely the ring's usefulness as a track for the traveler.

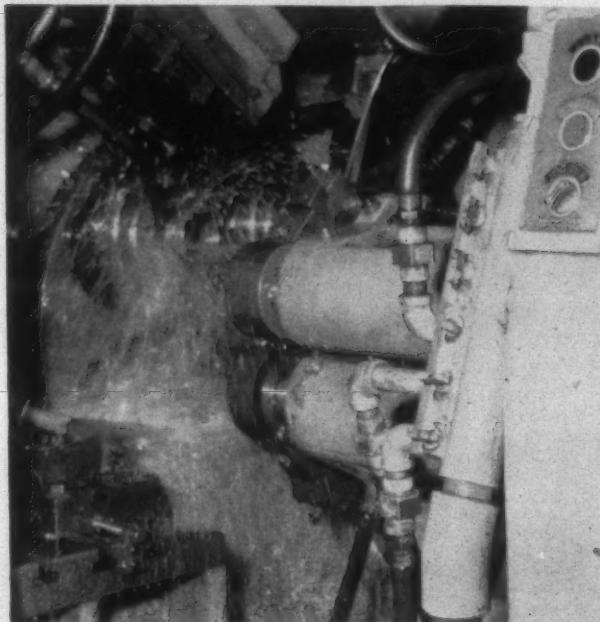
Galling is much more prevalent and dangerous to the ring during break-in time. During this period the traveler has a job other than winding the yarn on a bobbin. Before galling can be reduced to a minimum the traveler must finish a polishing job on the ring that a manufacturer cannot do.

Fig. 1 shows a photomicrograph of a highly polished steel surface (3 to 5 R.M.S.) seen under high magnification. This surface is much smoother than that found on the

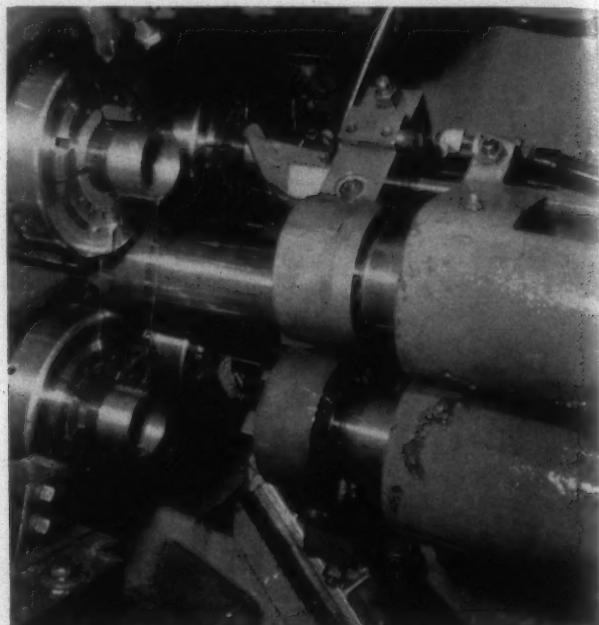
average highly polished or buffed ring. The surface of average rings that appear as bright as a mirror to the unaided eye have checked at 25 R.M.S. or five times as rough as the ring in Fig. 1.

### Ultra Smooth Track

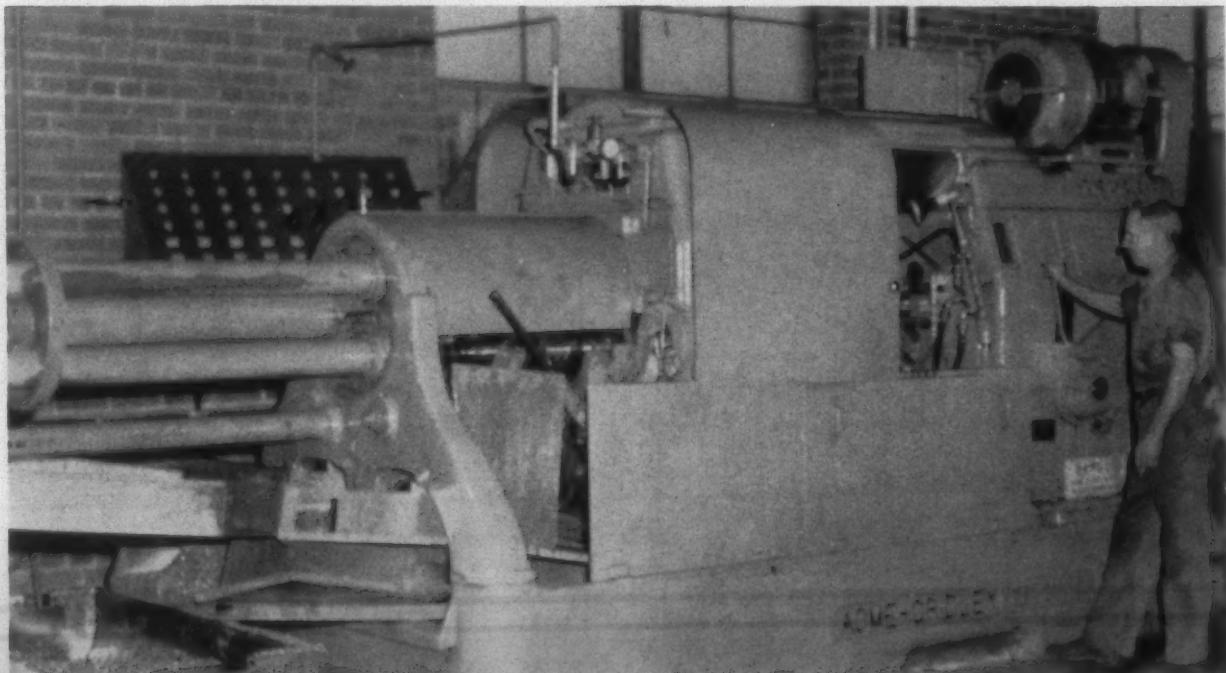
It is clearly apparent from this illustration that the traveler has quite a job on its hands to develop an ultra smooth track on the ring surface without overheating and leaving soft deposits galled among the other minute serrations on the ring. Practice has prescribed that travelers be changed on new rings at frequent and regular intervals in order that they be removed before becoming overheated



In the cutting operation on the automatic bar machine, an oil bath spray is used to control heat at the cutting point.



Minus the oil bath spray, a close-up of the bar machine shows four rings being cut on each spindle.



This four-spindle automatic bar machine cuts the rings from long sections of mechanical tubing.

and soft. There has been no given rule for these changes and there are so many variations that too often operatives have ruined rings thinking that they were proceeding according to the best method.

Since galling on the ring surface appears to be the major factor in determining its life and usefulness, ring manufacturers have spent much time and money experimenting with surfaces that will reduce friction and prevent galling. Many surface coatings such as wet and dry lubricants, platings, etc., have been tried. Some success has resulted but until recently the changes have not been enough to cause a sensation.

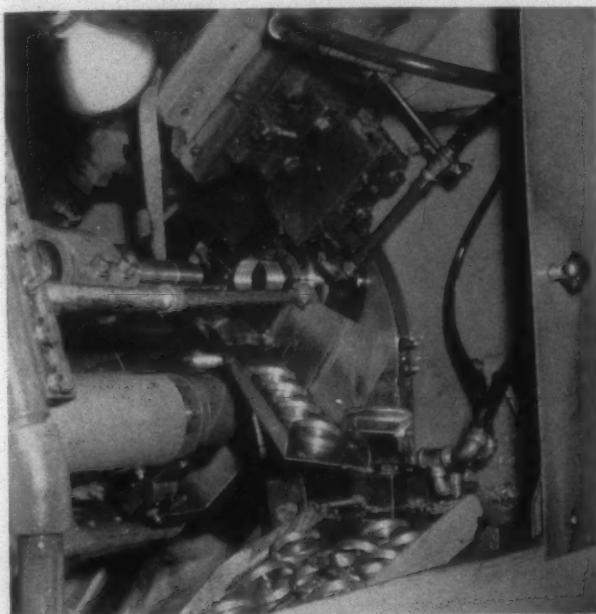
Within the past few years a new molten heat bath treat-

ment for ferrous metal parts has been developed. This treatment is commonly known as sulfurizing and was developed by its inventors to reduce or eliminate galling of ferrous metal parts that are subject to rubbing against one another in border lubrication areas or in areas where there could be no lubrication due to heat such as exhaust valve stems in internal combustion engines. Numerous other applications have been developed, including parts for guided missiles where a break down in operation from galling of small parts would be extremely costly.

Over a year and a half ago, a number of spinning rings were given the sulfurizing treatment and placed in operation. These rings were black and ugly. They looked and felt rough. They were put on a frame under mill conditions. They had not been hardened or finished in any manner after machine forming. From the very beginning they performed even more outstandingly than was expected.

The sulfurizing bath in itself imparts no hardness to the ring and tests indicated that such would be desirous from several standpoints. Ring hardness is necessary mainly to protect the ring from damage done when removing travelers. This showed up on some of the soft rings where travelers were removed by striking them a blow with small hammers or other objects. Secondly, hardened rings assure a longer margin of wear, providing the sulfurizing effects would not be burned out of the steel during a hardening process.

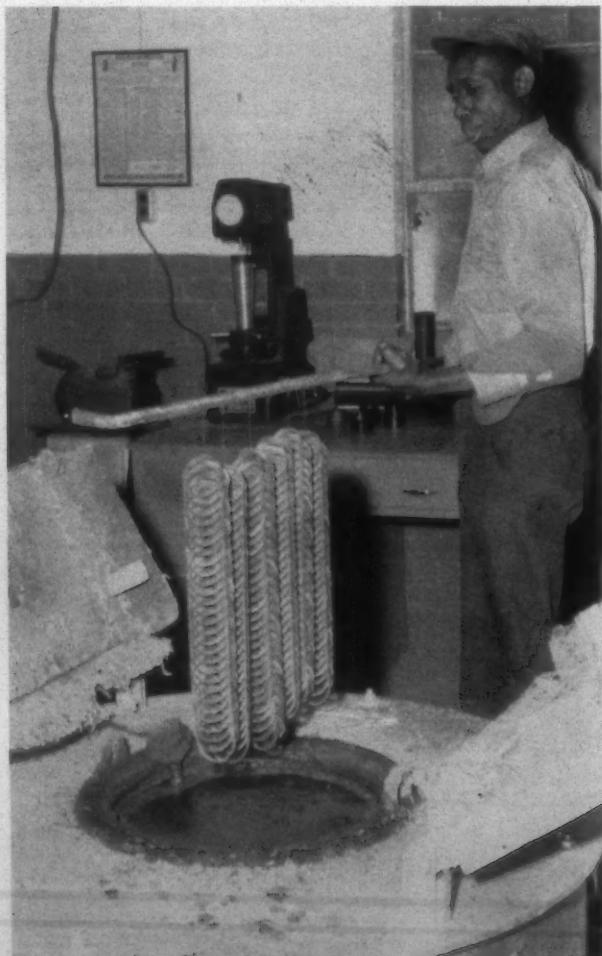
Further experimentation developed a method of treat-



Following the final cutting operation on the bar machine, the untreated rings tumble into a receptacle, all ready for their nitriding and sulfurizing baths.



A close laboratory check is maintained on both nitriding and sulfurizing baths. Each bath is chemically analyzed between batch treatments of the rings.



The rings are shown here being dipped in the sulfurizing bath. This treatment gives them a charcoal burnt appearance.

## OPENING, PICKING, CARDING & SPINNING

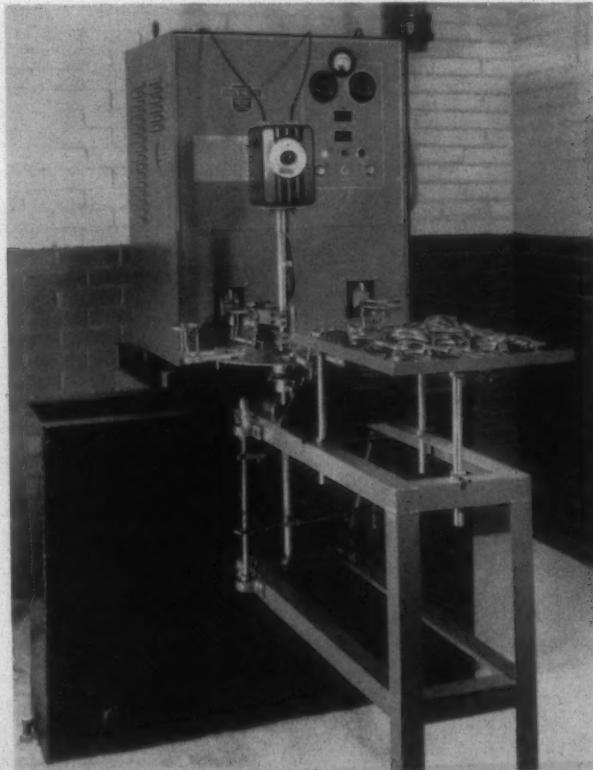
ing rings with the sulfurizing bath and also giving them a hardness in excess of 60 Rockwell C scale. This is accomplished without losing any of the ring's operating qualities.

It is definitely known that the treatment produces a dry lubricity on the running surface of the ring. This prevents galling from overheated travelers. The rings can be started up at top spindle speeds and will break in almost immediately. Traveler life in every case has more than doubled. Reports tell of travelers still running after several months of operation.

The actual running life of sulfurized rings is yet to be determined. With traveler life extended from several hundred hours to several months, there can be very little question of the advantages to be gained. One small mill superintendent running these rings said that according to his calculations he can make \$65,000 more per year with these rings. The entire cost of an installation for his mill is around \$4,000. Another superintendent is replacing conventional rings with sulfurized rings. He has been running sulfurized rings for nearly a year at traveler and front roll speeds much higher than can be accomplished on conventional rings. Other mills are installing large quantities of sulfurized rings.

### Penetrates Ring

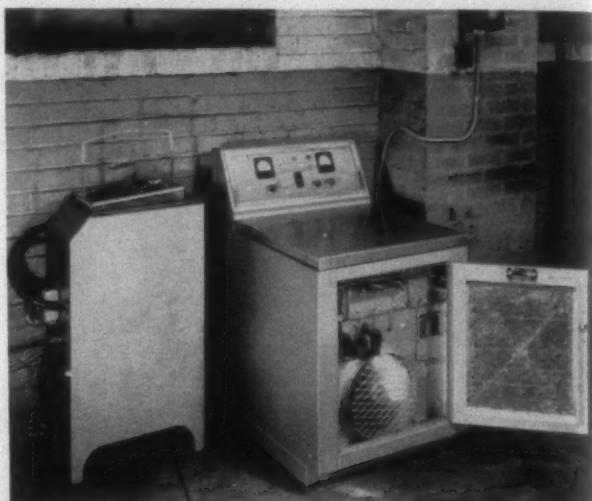
The sulfurizing bath as referred to is now patented in the U. S. and a patent pending number has been assigned to the manufacturing process now used in making sulfurized



This induction hardening machine is used for rehardening the rings after the sulfurizing bath. The process takes about three seconds per ring, with the machine dropping the rehardened rings into the oil tank beneath the heating coils.

rings. The sulfurizing process is not to be confused with surface coatings. This is true because the sulfur actually penetrates into the steel to controllable depths. Fig. 2 is a photomicrograph of a cross section of one-half of a ring flange. It is easily seen that the blackness has penetrated into the pores of the steel almost to the center.

Due to its porosity, cast iron conducts and retains elements of the sulfur bath much better than steel. Initial tests being conducted on sulfurized vertical twister rings made from cast iron indicate a vast improvement over similar treated steel rings. Further tests with sulfurized cast iron rings are scheduled for the early future using nylon travelers without any lubrication whatsoever except that imparted to the ring by the sulfurizing process itself. Such cast iron rings could be made cheaper than steel rings and could possibly do a better job.



After the sulfurizing bath, the rings are cleaned ultrasonically by this specially designed machine to remove the sooty deposit left by the sulfurizing treatment. After several minutes in the tank, the rings are said to be microscopically clean. Several hundred rings can be cleaned in five minutes time with the ultrasonic cleaner.



W. A. Kluttz and John Foard have worked closely in the development of their application of the sulfurizing treatment to spinning rings. They are now looking forward to delivery of a second bar machine identical to the one pictured here.

# A Look Ahead In Spinning

By ROBERT E. POMERANZ



A question any good mill man concerns himself with when he's on the brink of buying new equipment is, how soon will what I'm buying now be obsolete? It's a good question, as pointed out by the following address given last month before the annual meeting of the American Textile Standards & Methods Association at Clemson College. The author is president of the Roberts Co. of Sanford, N. C.

MAKING a good product and selling it at a low price depends largely on the manufacturing facilities and the machinery used. So those of us who make machinery and those of you who set manufacturing standards which determine production cost are vitally interested in selecting the right equipment to do our jobs, and in knowing what the future may bring in the way of machinery changes.

Every mill organization with a standards department looks to it to establish its job loads, its production organization and its cost standards. Further, the standards department recommends and evaluates cost reduction programs. These two responsibilities provide management with the factual data for proper operation of the business and for continuing improvement and strengthening which mean vitality and profits in the future.

There are at least two other concurrent responsibilities which the standards department must assume. First lies the question of finding the right places to make improvements and cost reductions. With every mill facing innumerable places to make improvements, the responsibility of selecting the right places is an important function of the standards department.

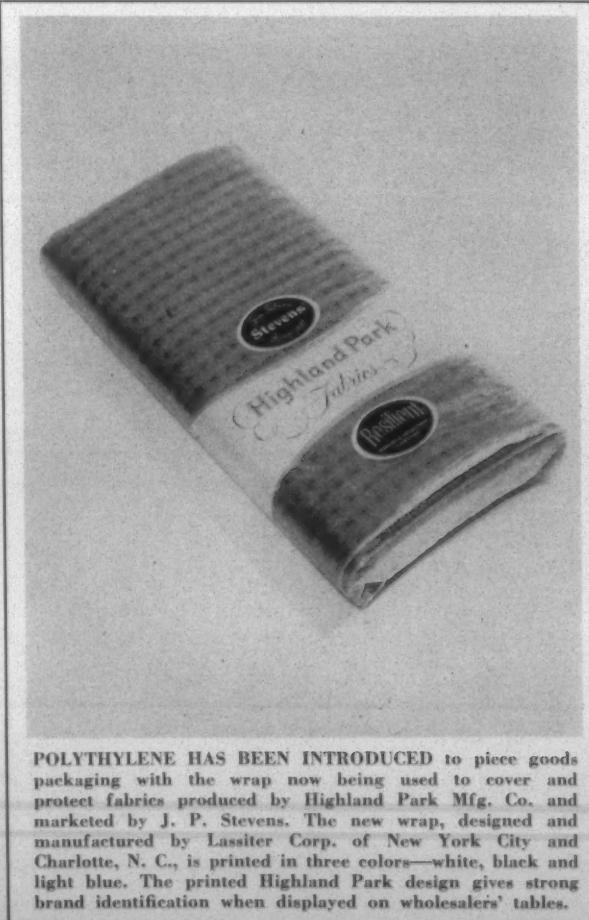
The second matter concerns management even more. The question is asked over and over: "Is the machinery we propose to buy or the modernization we propose to apply the very latest, or will we be obsolete once again in a few years?"

The answer to that question comes about only when we can reasonably forecast what lies ahead in the way of improvements in machinery or changes in the basic processes. Since the spinning process itself represents the major portion of the total cost of yarn manufacturing, it may be worthwhile to look ahead five or ten years to see what might be available in the way of spinning machinery at that time.

The past ten years have seen the spinning frame become a piece of precision machinery, able to run at substantially higher speeds and with much greater performance over what could be accomplished just a few short years ago. In a continuation of this trend, we foresee that the next ten

years will bring about these significant advances in spinning performance:

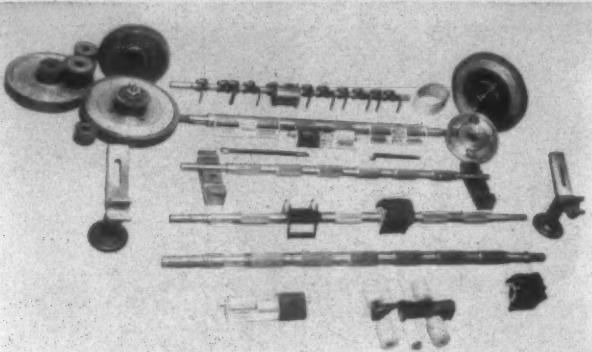
- (a) Higher spindle and front roll speeds, with spindles turning up to 15,000 r.p.m.
- (b) Traveler speeds of 6,500 to 8,000 f.p.m.
- (c) Increased spinner job loads as our conception of the basic responsibility of a spinner is developed further. For example, one mill is now experimentally assigning 126 sides to a spinner, although this involves only putting up ends.
- (d) The much wider use of balloon control arrangements will mean better balances of yarn tensions and provide more ounces of yarn on the bobbin, better built packages, sharply reduced ends down and a bigger package for every job.
- (e) Simplifications and refinements in the drafting zone will mean better yarn evenness than possible today.
- (f) Ring sizes within one inch of gauge will be commonplace.
- (g) The increased use of ball bearings in the spinning



POLYTHYLENE HAS BEEN INTRODUCED to piece goods packaging with the wrap now being used to cover and protect fabrics produced by Highland Park Mfg. Co. and marketed by J. P. Stevens. The new wrap, designed and manufactured by Lassiter Corp. of New York City and Charlotte, N. C., is printed in three colors—white, black and light blue. The printed Highland Park design gives strong brand identification when displayed on wholesalers' tables.

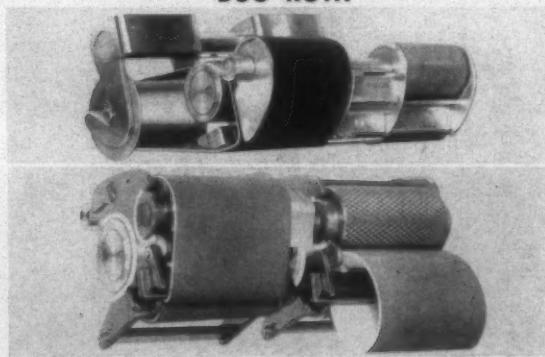
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### OPENING, PICKING, CARDING & SPINNING

frame will mean smoother and more consistent performance. On the new Roberts M-1 frame, there are already over 2,000 ball bearings in the average length machine.

(h) New developments in high speed winding and spooling machines, with increased interest in big package spinning.

(i) Sliver spinning machinery will become economically interesting on a greater number of yarn manufacturing jobs, and most particularly on new installations.

To sum it up, we see higher speeds, increased output per spindle, much better yarn quality and reduced ends down, bigger and better packages and reduced labor costs. The director of engineering of a mill organization expressed it this way recently, "What we want to do is to cut in half the cost of manufacturing yarn." That certainly should be possible of attainment in the future.

It may be interesting to examine how such increased performance would affect the manufacture of a typical yarn number. Perhaps the greatest number of spindles in the industry are on 30s warp yarn used for print cloth. The figures we present here represent good averages, not necessarily what the best mills did five years ago or are doing today, but what was being done by the good average mill and what can be obtained by the ambitious manufacturer of the future.

### A Comparison of 30s Warp Yarns

	1948	1958	1968
Yarn Number	30	30	30
Twist Multiple	4.60	4.30	4.10
Hank Roving	1.65	.70	.50
Draft	18	43	60
Ring Size	1 1/4"	2"	2 1/4"
Spindle, r.p.m.	10,000	10,300	12,350
Traveler, f.p.m.	4,600	5,400	7,250
Front Roll, r.p.m.	128	140	175
Bobbin Length	8 1/2"	10"	12"
Traverse	7	9	11
Net Ounces on Bobbin	2.5	4.5	8.5

If these figures strike you as being fantastic, just compare the performance of a good mill today with one of ten years ago.

Naturally, the spinning machine itself will not be the only piece of equipment that must be improved to produce such advances. Performance such as this will require exceptionally good stock preparation, continuous improvements in the cotton staple itself, and a greater consistency throughout the whole process. Whether such results are worth attaining must be left to the individual mill. We have found that most improvements in the industry have been stimulated by the mills and come from within them. It is up to us in the textile machinery field to respond to such stimulus and to produce the equipment which mill management wants in order to make a better product at lower cost.

A \$24,982 Rolls Royce, most luxurious and highest priced car shown at the recent International Automobile Show in New York City, supported a growing fashion trend—a revival in car upholstery. The interior passenger section of the seven-passenger black limousine was completely tailored in finest beige wool broadcloth. This fabric is being used in a growing number of style-setting fine cars in this country.

## Warp Preparation & Weaving

# Georgia Operating Executives Discuss Slashing Techniques

In the opinion of Georgia Textile Operating Executives, meeting on the Georgia Tech campus in Atlanta last Fall: (1) it is both necessary and desirable to control size viscosity; (2) high pressure drying cylinders allow considerable speed increases; (3) pneumatic traversing press rolls allow high increases in yardage on loom beams; (4) there is some question as to whether a lease should be picked or struck; and (5) stretch is not difficult to control on the slasher and generally 1.5 per cent is the most desirable.

### Question No. 1—What is the viscosity of size you run and how do you control viscosity?

*Mill E:* We do not employ the use of a viscometer but check each batch of size visually. We maintain the desired viscosity by changing the pressure at the homogenizer.

*Mill I:* We have an electrically controlled viscometer on one of our slashers and a recording chart gives the viscosity of the size throughout the running of the set. For our particular need of a size pick up of about 11 per cent the recorder reads around 25-30. We also test viscosity daily with a brass cup and stop watch.

*Mill K-2:* We use a Brookfield Viscometer to check our viscosity. We get an average reading of 16-17.

*Mill N:* On our thin boil size mix, the viscosity is measured in the storage kettle by a Norcross Viscometer. The viscometer records a reading every two minutes. This reading varies between 13 and 15. We control our viscosity by carefully measuring the water, size and starch that goes into each kettle. We also carefully control the cooking cycle of each kettle. We try to maintain a constant temperature in the storage kettle.

*Mill O:* We use a flow type cup with a  $\frac{1}{16}$ -inch opening in checking the viscosity of size. High reading at the cooking kettle is 24 seconds. Low reading at the size box is 20 seconds. We use a sizemeter which controls the whole process. The steam is automatically cut off and the circulating pump stops when the size reaches the correct viscosity. The size is then transferred to the storage kettles.

*Mill S:* We use the No. 2 Zahn Cup to measure size viscosity. We keep our viscosity in range by varying homogenizer pressures.

### Question No. 2—Please give your experience in changing from low pressure two or three cylinder slashers to the multiple cylinder high pressure cans.

*Mill B:* We have recently installed a new nine-can, high-pressure slasher and we find that we can get about 33.3 per cent more production. We do not have the proper controls on this slasher yet to get the maximum efficiency but feel that we can improve this figure considerably.

*Mill G:* We replaced three three-cylinder slashers operating at ten pounds steam pressure with two ten-cylinder slashers at 35 pounds pressure. Our speed went from 42 to 70 yards per minute on a set of 4,609 ends of 14.25s yarn. This is an increase in pounds per hour from 970 to 1,600 or 65 per cent. On a weekly basis our increase in production has amounted to only 47 per cent since the down time for changing sets remains the same on the new slashers as it was on the old ones. We do not have the larger type section beams or magazine creels.

### Question No. 3—Please give experience with pneumatic press rolls and traversing press rolls. Give pressure used and increased yardage on the beam. Have you been able to use a traversing press roll on yarn that was over-waxed?

*Mill B:* We have one of our slashers equipped with the pneumatic press roll. We find that we can get approximately ten to 12 per cent more yarn per loom beam.

*Mill I:* We have two slashers equipped with pneumatic press rolls and two with traversing press rolls. We use 60 pounds pressure and get about ten per cent more yardage.

*Mill J:* We have had pneumatic press rolls for five months and our experience has been satisfactory. The average increase of yardage per beam has been 15 per cent.

*Mill K-2:* We have two narrow and one wide slasher equipped with pneumatic press rolls. The narrow slashers have a traversing roll and the wide one has an expansion head. On the narrow slashers we increased our yardage by

#### WARP PREPARATION & WEAVING

about 30 per cent using a pressure of 60 pounds. The wide slasher showed an increase of about 12 per cent.

**Mill N:** We have three slashers equipped with pneumatic press rolls and traversing rolls. Our operators like them very much. We have realized approximately a ten per cent increase in beam yardage. On a set having 4,609 ends of 14.25s yarn we use 42 pounds pressure. On a set having 5,556 ends of 24s yarn we use 32 pounds pressure. Both styles are on a 26-inch diameter beam with 50 inches between heads. We put 1,100 yards on the 14.25s beams and 1,375 yards on the 24s beams.

**Mill O:** Our slashers are equipped with pneumatic press rolls and we use 20 pounds pressure on narrow warps. On wide warps we apply 30 pounds pressure. We get an increase of ten per cent more yards per loom beam.

**Mill P:** All our slasher deliveries have been operating with these units for several months. The first unit was installed in November 1956 on a slasher with three stage friction drive and traversing press roll. On this delivery about 11.5 per cent increase was obtained. Since the drive and press roll modifications had already resulted in more yards per beam than conventional deliveries, there was not much potential improvement with the new device on this slasher. In February 1957 we started to equip all the other deliveries. We found that we were getting an average increase of 20 per cent. We run about 20 pounds pressure on the air gauge, however the actual pressure varies with the leverage applied. It is necessary to have either the expansion press roll or the traversing type in connection with this installation. The total cost to equip seven slasher deliveries including installation, labor, tax and freight was \$2,730. The estimated savings is \$8,300 per year.

**Mill Q:** We put on both the traversing and pneumatic press roll. We obtained a 20 per cent increase in yarn on the loom beam with 40 pounds air pressure. We ran into

trouble with the traversing press roll. We over-wax our yarn and a coat of wax forms on the traversing roll. The roll gets so slick that it will not traverse. We had to change the press roll.

**Mill T:** We are running the Lewis pneumatic press roll on 32 and 60-inch loom beams. We were able to increase yardage per beam by 12 per cent by going to the pneumatic press roll using 42 pounds pressure.

**Mill U:** Pneumatic press rolls which traverse have been very satisfactory for us. We are able to add about nine per cent to beam weight using 45 pounds pressure. Traversing press rolls are used on yarn that is over-waxed.

#### Question No. 4—Do you strike or pick your leases? What are the advantages of your method? Give number of ends, size of yarn and width of cloth.

**Mill A:** We have to count our leases as our sets have from 4,300 to 6,200 ends going into 44-inch cloth.

**Mill B:** We count our leases on some styles and strike it on others. We, generally, count leases on sets up to 2,500 ends and strike on sets above 2,500 ends. We have found that it gives a smoother, better running warp when the lease is counted on light sets. We have no trouble with striking the lease on a heavy set. We do count the lease on the first 25 or 30 dents when we strike a lease in order to give a smooth selvage. Our sets run 1,100 to 5,000 ends. Our yarn numbers vary from 3.5s to 18s. Our cloth width varies from style to style from 22 to 118 inches.

**Mill E:** Our warps are coarse yarns with few ends. We, therefore, pick our lease to insure a more uniform warp.

**Mill I:** On terry top and bottom warps the warper tender picks an end to end or pin lease and slasher tenders run leases between each slasher beam. On flat goods with 15 or 20 section beams, no pin lease is used and a lease string is run between each slasher beam. We feel that this method is satisfactory to prevent stuck ends in the weave room. Slasher men run lease strings all during the running of the set. We run yarn sizes from 8s to 20s and ends numbering from 1,008 to 5,800. The width of the goods ranges from 15 to 51 inches on towels and terry cloth and 28.5 to 56 inches on flat goods.

**Mill J:** We pick our leases. Warp ends vary from 696 (14s yarn) to 1,472 (9.25s yarn). We make huck and crash toweling, face and bath towels.

**Mill K-2:** On all narrow cotton styles we strike our lease. On wide cotton and all rayon we pick our lease. Our narrow goods are made from yarns varying from 14s to 34s woven into widths from 36 to 49 inches. Our wide goods are made from yarns varying from 22s to 34s woven into goods from 60 to 120 inches. The number of ends on narrow goods varies from 1,765 to 4,350. On wide goods, the number of ends varies from 2,828 to 10,560. We think that our narrow sets, if the comb does not have to be widened after striking a lease, are as good as they would be if they were picked in.

**Mill N:** We count our leases to get a smoother face on our 26-inch diameter loom beams. We feel that the smooth face on the loom beam makes for better weaving. On an 11 beam set of 14.25s yarn with 4,609 ends, we count 11 ends to each dent on a comb that has 25 dents in each of 18 panels. The cloth width is 43.5 inches.

**Mill O:** Our leases are picked because this method gives



Lewis, Clark, Bains

**COATS & CLARK HONORS VICE-PRESIDENTS**—John B. Clark, president of Coats & Clark Inc., is shown congratulating two top Coats & Clark executives at a recent dinner in their honor. J. Colby Lewis, the firm's vice-president in charge of manufacturing and research, was honored on the occasion of his partial retirement after 26 years with the company. Relinquishing his post as vice-president, he will continue his association with the firm as a consultant. Vice-President James Bains, who is head of Coats & Clark's finance and control division, was honored on the completion of more than 50 years with the company. He began as an office boy in the firm's Pawtucket, R. I., plant in 1906. Both were presented handsome gold watches at the dinner.



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## WARP PREPARATION & WEAVING

us a more even wind on the loom beam. Yarn counts are 26s to 31s with warp ends ranging from 700 to 4,812 and cloth width ranging from 35 to 41 inches.

*Mill Q:* We pick our leases and feel that we are able to keep the warps straighter by doing so. We run 2,000 ends of 9s yarn and weave 30-inch cloth.

*Mill R:* We pick our leases because we feel we get smoother warps, fewer stuck ends and higher slasher and loom efficiency. Our warps range from 564 to 1,264 ends and are made from 10s to 15s. Our cloth widths are from 26 to 50 inches.

*Mill T:* We pick our leases. The number of ends in our warps ranges from 2,800 to 5,900. Our yarn numbers are from 13s to 26s. We get smoother beams, better tying-in and fewer crossed ends behind the drop wires using this method.

*Mill U:* We count our leases because we can get straighter tied warps and more even tension on both yarn sheets. Our standard style is 39"-4.00 yard, 80 x 80, using 31s warp.

### Question No. 5—What per cent waste do you make in slashing? Show hard thread and soft thread waste; also, what is your hard waste from weaving?

*Mill A:* Based on baled cotton opened: (1) hard slasher threads—0.02 per cent; (2) soft slasher threads—0.34 per cent; and (3) hard weaving threads—0.12 per cent.

*Mill E:* (1) hard thread—0.50 per cent; (2) soft thread—0.60 per cent; (3) weaving hard thread—0.75 per cent.

*Mill I:* Waste amounts to around 1.40 per cent on slashers including floor sweeps.

*Mill J:* We make about 1.22 per cent waste in slashing. Of this total 0.28 per cent is soft waste and 0.74 per cent is hard waste. Hard waste made in weaving is included.

*Mill K-2:* Our weaving and slashing hard waste amounts to 0.43 per cent. Our soft thread waste is 0.28 per cent. Slasher waste totals 0.75 per cent.

*Mill M:* Our slasher waste is: (1) hard waste—0.20 per cent; (2) soft waste—0.18 per cent; and (3) weave room hard waste—0.25 per cent. These figures are based on the weight of the warp yarn only, not total weave room production.

*Mill N:* Our slasher waste is: (1) hard waste—0.17 per cent; (2) soft waste—0.43 per cent; and (3) weave room hard waste—0.21 per cent.

*Mill Q:* From the front of the slashers we have 0.19 per cent soft waste and 0.57 per cent hard waste. From the back of the slashers we have 0.25 per cent soft waste. This gives a total of 1.01 per cent thread waste from the slashers. Our hard waste from the weave room is 0.06 per cent.

### Question No. 6—Do you have difficulty controlling stretch? Give standard and limits allowed above standard. What type slashers, fabrics and widths do you run?

*Mill A:* We calculate our stretch for every set run. The input yardage is taken from the warper yardage and the

output yardage is taken from a counter over the delivery roll. We keep stretch between 1.5 and 2.0 per cent.

*Mill B:* We do have difficulty in controlling stretch. We have installed on our slasher a Weston indicator which gives the percentage stretch constantly and we try to keep our stretch on heavy sets from 2.0 to 2.5 per cent. We have two slashers. One is a three-can, low-pressure type and the other is a nine-can, high-pressure type. We run Osnaburgs, ducks and industrial fabrics which vary from 22 to 118 inches in width.

*Mill E:* We have a standard two per cent limit allowed above an average of 1.5 per cent. We run 40-inch Osnaburgs.

*Mill G:* Our standard allowable stretch is 1.5 per cent with a high limit of 2.0 per cent. We have a nine-cylinder slasher with a multi-motor drive. We weave corduroys and Osnaburgs from 30 to 60 inches wide.

*Mill I:* The only difficulty we have in controlling stretch is in the creel on wet work. We have to weight our beam with ropes and as the set runs down we take as much weight off as possible. We found that silicate deposits on bleach beams cause weight ropes to have tighter pull and we have eliminated this by applying paraffin to grooves in heads of dye and bleach beams. Our over-all stretch on dry work is around 1.5 per cent. This is measured from the back section beam to the loom beam. On wet work we have 15 to 20 beams in the slasher creel. The stretch on this work runs about 1.5 per cent in the creel, 0.50 per cent on the dry cans and 1.0 per cent in the slasher proper. We have two slashers equipped with six dry cans and Reeves drives. We also have one hot air slasher, one four-cylinder slasher and eight two-cylinder slashers. We make terry and flat goods ranging in width from 16 to 56 inches.

*Mill J:* We do not have any real difficulty in controlling stretch. We range from one to two per cent stretch. Our standard is 1.5 per cent. We have one Lowell slasher from 12 to 22 inches in width.

*Mill K-2:* Our standard slasher stretch is 1.5 per cent. On some of our 120-inch goods we have to go as high as 1.7 per cent. We have both hot air and can slashers. We run wide muslin and percale sheetings, lightweight sheetings, print cloth and other commercial sheetings varying in width from 36 to 120 inches.

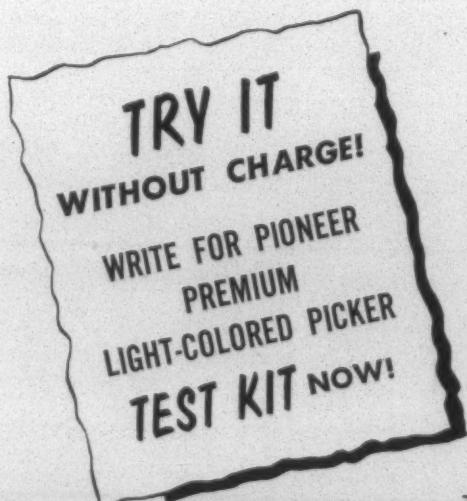
*Mill O:* Our slashers are equipped with P.I.V. variable speed drives for controlling stretch from the size roll to the delivery roll. Each section beam in the creel has ball bearings. We use ropes and weights for controlling tensions in the creel. Our standard stretch is 1.5 per cent to a high of three per cent. We think on a heavy set of ticking, 5,600 ends of 12s, that 2.5 per cent stretch helps eliminate rolled ends in the warp. We weave various types of goods including shirtings, suiting, tickings, upholsteries and automotive fabrics.

*Mill R:* Our stretch is controlled from 1.5 to two per cent by positively driven creels. We have two Saco-Lowell three-cylinder, friction type slashers. We make terry goods from 26 to 50 inches in width.

*Mill T:* We have tension controls on each slasher. Our average tension is 1.5 to 2.0 per cent. Our 24s and 26s warp runs 1.5 per cent stretch. Our 13s and 18s warp runs 2.0 per cent stretch. We have a West Point, single-head, ten-cylinder slasher. We weave 30 to 60-inch wide sheetings, drills, twills, sateen and drapery.



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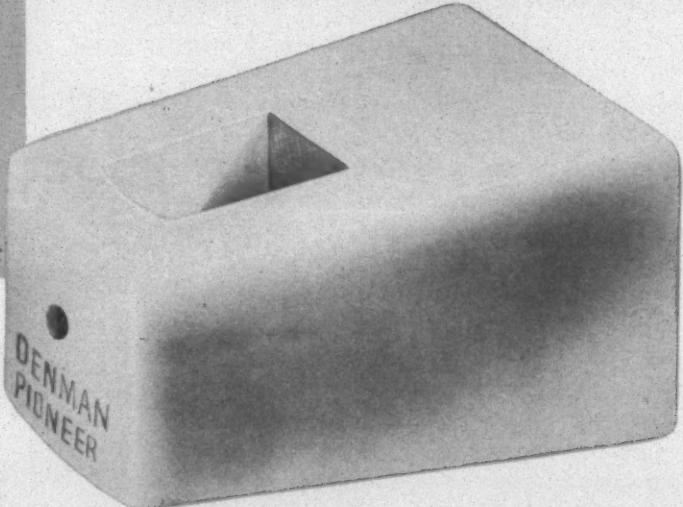


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# Bleaching, Dyeing & Finishing

Dyehouse Data By Dodson

## PACKAGE DRYING

This is a continuation of last month's article by Mr. Dodson on package drying. The author, as pointed out earlier, has been closely associated with the bleaching, dyeing and finishing phases of the textile industry for many years, and is the holder of a number of patents developed during the years in which he was assistant to the president of Smith, Drum & Co. of Philadelphia, Pa. As a newcomer to this journal's staff, he would like to get your reaction to this initial offering, his first such writing since the publication of his book, "Remedies For Dyehouse Troubles." He also suggests that if you have any specific problems, you should get busy on them. And if he can keep you busy by answering a question or two that has you momentarily stumped, he'll be more than happy to oblige.

### The Pressurized Air Port Type Dryer

This is a design which has had moderate success and one which does eliminate centrifugal extraction. It thus eliminates the handling of packages from the yarn carrier on which the packages were mounted for dyeing, into the centrifugal extractor, out of the extractor, and into or onto units for drying as covered in types one and two.

It is relatively inexpensive so far as the ports are concerned, as these are simply cast metal openings in a metal conduit on which the yarn carriers are placed. Each opening or port has its own shut-off valve to prevent waste of pressurized air when one or more of the several ports are not being used for actual drying. These machines are usually furnished with two to four ports per conduit.

The conduits are usually fabricated sheet metal and are fastened to the floor of a space near the dyehouse, so that overhead hoist systems can convey the loaded yarn carriers from the dyeing machines to the drying machine. At one end of each conduit is a multi-stage centrifugal type blower with suitable heating coils enclosed in a housing at the discharge end of the blower. Naturally, the conduit leads from the heating coil chamber to the drying ports.

The motor for driving the blower is seldom less than 30 h.p., seldom more than 50 h.p. and the pressures developed are about five pounds per square inch maximum.

Extraction is accomplished by air pressure by (a) subjecting the yarn to stored, compressed air, while the carrier

### PART TWO

By WILLIAM C. DODSON, Consulting Editor

is still in the dyeing kier; or (b) simply by depending on the pressure of air delivered from the multi-stage centrifugal blower to first blow out as much surplus moisture as possible. Then, by continuing to force air through the packages, to dry them.

In the case of (b), it is pretty hard to say just when extraction ceases and drying begins, but in either (a) or (b) I do not believe you can count on any appreciable solid water removal after the first 90 to 180 seconds of blowing, no matter what the initial air pressure may be. Certainly though, the greater the air pressure for extraction, the greater the primary removal of water will be. Under optimum conditions and with air at approximately 20 pounds per square inch for the 90 to 180 second period, you will end up with about 80 per cent moisture remaining in the package. Package weight 100 per cent, moisture weight 80 per cent above dry package weight.



High speed, recirculating pressure air machines. (Photo courtesy Smith-Drum Division, Turbo Machine Co.)

With this type extraction you undoubtedly save some handling labor as well as time. This will have to be balanced against the cost to you of the compressed air.

Now this approach to the drying problem seems desirable, but there are three undesirable features connected with it. First, you will be tying up an expensive yarn carrier for the total drying period; second, you will be blowing very warm, moist air into your drying room, since no provision is made on the machine to remove such discharged air from the immediate area; and third, you have the problem of filtering the air before it goes through the blower. Under good conditions the drying time will be perhaps 25 per cent greater than that required by the pressure-air cabinet machine, since all your drying must take place from the inside toward the outside of the package.

#### The Pressurized Air Kier Type Dryer

When everything is considered, this machine is probably the best dryer available today. It is not the fastest dryer available, or the least expensive, but for simplicity and reasonably rapid production it is good. The amount of individual package handling is reduced to what seems to be a minimum and this, of course, means that the labor cost involved is about as low as you can obtain. The drying time required should be about one hour per batch less than is possible on the port type when horsepower and blower capacities are the same. There is no discharge of hot, moist air into the adjacent space since it is easy to vent the discharged air outside the building and *visible* yarn discoloration due to contaminated air is far less. It is, however, more costly than the port type but not excessively so.

Each drying unit consists of a steel kier, very similar in size and appearance to a dye kier; a motor driven multi-stage rotary blower; a heater to heat the stream of pressurized air; and the necessary duct work to properly connect the discharged side of the blower to the heater and then to the kier itself. Also the duct work to carry the hot moist air to waste is necessary.

The flow of air, in relation to the packages, is from the outside of the package to the inside. This outside-in

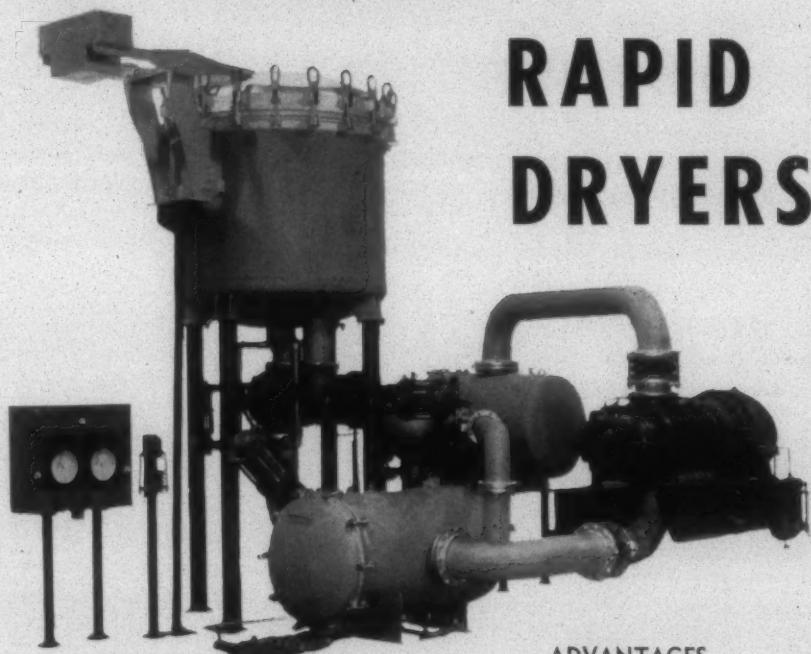
flow is why the *visible* contamination by the air is less than on the port type machines. If there is going to be air contamination, it will be present in the yarn all right, but since the flow is from the outside-in, the foreign material is spread over a far greater area than when the flow is inside-out, and therefore it is much less likely to be visible or objectionable.

As in the case of port dryers, all yarn is moved from dyeing machine to dryer, to unloading area, by means

of overhead hoists. This of course means that an expensive stainless steel yarn carrier will be tied up for the duration of the drying period. Ordinarily it will be desirable to buy at least three stainless steel yarn carriers instead of two, as would be the case if either of the cabinet dryers was used. Also, the overhead hoist and track are essential to this setup.

Both the port type and the kier type systems can be bought from any of the recognized manufacturers of dye-

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10. Allows more efficient use of package carriers
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13. Allows smaller inventory of finished goods
14. Reduces overall costs of dyehouse operation

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ing machinery, whereas the cabinet types are offered by only a few.

#### The Pressurized, Recirculating Air Condensing Type

Here we have the most modern type of package dryer with the greatest drying speed. It is definitely the most expensive type of the whole group, so far as unit machine cost is concerned, but its speed and freedom from air contamination makes it of interest for large production requirements. Also in its favor is the fact that it does not require an air filter as do the other pressure air types, for reasons which will appear in the subsequent paragraphs.

On the other hand, it does require a condenser and a supply of cold water for use in the condenser. The condenser is subject to fouling, due to deposits of lint, volatilized finishing compounds, etc. However, the condenser may be cleaned very easily without removing it from its housing. Blank-off discs are placed over the inlet and outlet openings of the housing, and chemicals are poured into the chamber surrounding the condenser coils. Steam is injected into the coils and after a few minutes the chemical solution is removed, leaving a clean condenser.

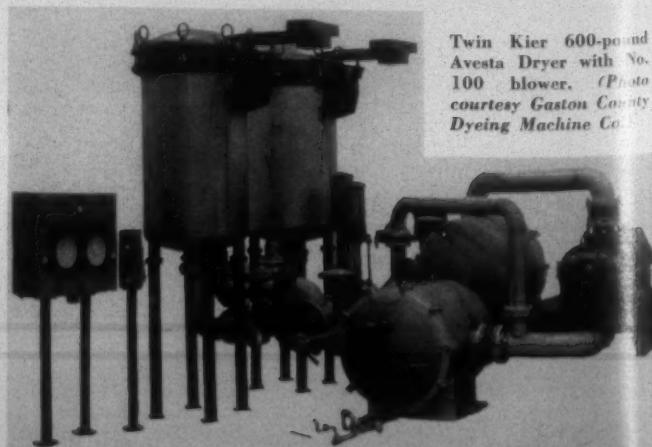
Of all the pressure air types, this one requires a valve to allow for the reversal of the direction of air flow, from outside-in to inside-out.

In general appearance it is not too dissimilar to the ordinary kier type, since it requires a kier for holding the package carriers. It requires a blower and, of course, a motor for driving the blower. It requires heating coils near the discharge end of the blower, and drain fittings in the kier bottom to allow for removal of water from the extracting operation. Here the apparent similarity ceases, because the entire system is arranged for the recycling of the initial mass of air which is sealed into the unit before drying begins. For this reason no air filter is required.

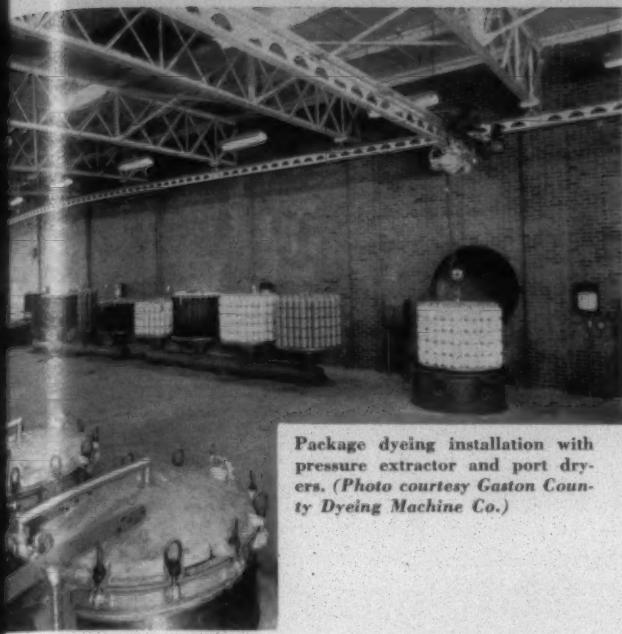
The motor is usually 75 or 125 horsepower, depending on the yarn capacity of the dryer. The blower, instead of being a multi-stage centrifugal type, is a positive displacement high pressure (up to seven pounds per square inch) air pump.

#### The Operation Itself

It is difficult to give an intelligible word picture of such a machine, but perhaps a description of the operation will



Twin Kier 600-pound  
Avesta Dryer with No.  
100 blower. (Photo  
courtesy Gaston County  
Dyeing Machine Co.)



Package dyeing installation with pressure extractor and port dryers. (Photo courtesy Gaston County Dyeing Machine Co.)

help. The package carrier from the dyeing machine is placed in the kier by the overhead hoist. The kier cover is sealed in the usual way. The direction-of-air-flow-valve is set so that the pressure air flows from the outside of the packages to the inside, and the motor is started.

For the extraction period (usually about ten minutes), the full blower pressure is exerted against the packages. Almost violent extraction results. The extractable water rushes from the drain fittings in a torrent, but it is soon driven from the packages.

The air flow is then reversed so that during the drying cycle the flow is inside of the packages to the outside. The air flow is continuous from the blower through the heater, to the yarn, to the condenser and back to the blower, like a dog chasing its tail.

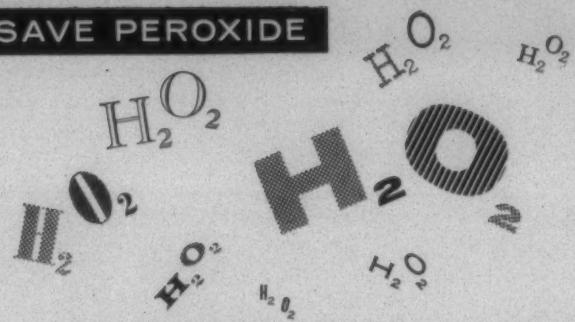
When the recycling is established, steam is admitted to the heater coils and condenser water starts flowing through the condenser coils. The water in the yarn begins to evaporate, and is carried across the condenser coils, where the lower temperature causes it to precipitate continuously in proportion to the temperature of the condenser coils (the old Relative Humidity principle in continuous operation). Drying proceeds rapidly due largely to the high rate of air flow through the packages as well as to the high temperatures which can be safely employed. The drying time is short—very short, compared to the time required by the other systems.

Properly operated and properly insulated, such a machine will deliver dried yarn which is free of normal air contamination. It is soft, due to the ability to control the relative humidity of the drying air, and there is seldom any dyestuff migration, due possibly to the very short drying cycle. Good insulation will minimize heat losses and the condenser water will contain a lot of B.T.U.'s which should be conserved. The system lends itself to steam economy, perhaps more so than any of the others.

#### And That's It

Well, there you have the outlines of pretty nearly the whole picture, in so far as I know it. Diagrams and photo-

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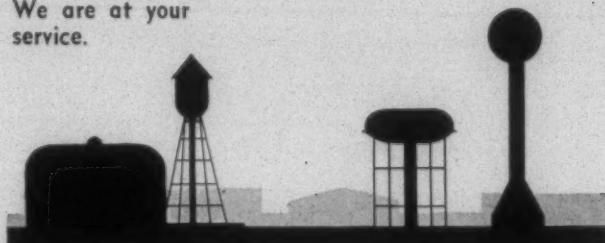
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graphs, steam consumption and horsepower, costs and savings will be given you by those who manufacture and sell any or all of the different types of machines. Naturally the suppliers with whom you talk will be biased one way or

another, but they all will have something to tell you if you are interested in drying yarn in package form.

And remember: the purpose of this story is to tell you what you can buy, not what you should buy.

## Maintenance, Engineering & Handling

### Obtaining Efficiency In Boiler Operations

By LEO WALTER, Consulting Engineer

The following article deals mainly with design and function of boilerhouse instruments used for automatic boiler control. By regarding a boiler as a heat exchanger between hot gases and water, this heat exchange process suggests the following main process variables to be subjected to measurement or control: (1) weight or volume of fuel; (2) volume or weight of feedwater; (3) composition of flue gases; (4) boiler furnace draught or differential draught; (5) temperature of feedwater, flue gas, air, etc.

ECONOMICAL steam generation depends to a very great extent on correct design, function and maintenance of boilerhouse instruments. By finding out exactly how much steam is produced per pound or per ton of coal burned, and by calculating the cost per pound or per ton of steam produced, an indication of boilerhouse efficiency is readily obtained. The necessary instruments for calculation of boiler efficiency can be very different. They might consist in one instance of a draft gauge, a  $\text{CO}_2$  recorder, two feedwater and two flue-gas thermometers, together with feedwater meter and/or steam flow meter plus means for weighing coal and ashes, etc. In another instance where air preheaters, economizers, superheaters, induced draft fans, etc., are in operation, much more elaborate instrumentation might be advisable.

The use of instruments in the boilerhouse is nearly always contemplated where a new boiler is installed. The question is, however, whether false economy does not cut out one or the other essential instruments, which omission might greatly reduce the value of instrumentation. In other instances, the question might arise whether it would not be advisable to renew and thus modernize the whole boilerhouse instrumentation. By specifying all necessary instruments a new instrument panel will not only improve conditions but will also add to the neat and efficient appearance of the boilerroom.

In theory, no boiler should today be fired by hand, nor

should the fireman be responsible for meeting varying steam demand.

The reasons for hesitation in adopting automatic boiler control seem mainly the initial cost of installation, sometimes insufficient knowledge of the instruments available, and the use of out-dated boiler equipment. The cost of automatic stokers, which are a pre-requisite for automatic boilerhouse control, has now become very reasonable and can be recovered from savings of coal. The argument in favor of automatic boiler control cannot be disputed. Without it the plant operator in general, and the boilerman and stoker in particular, are subjected to all sorts of irresponsible incidents which are dependent on the human element.

Admittedly, the knowledge and technical skill of human operators can be, and has been, increased by means of instructional courses, by practical demonstrations of efficient firing and by providing measuring instruments. Never-

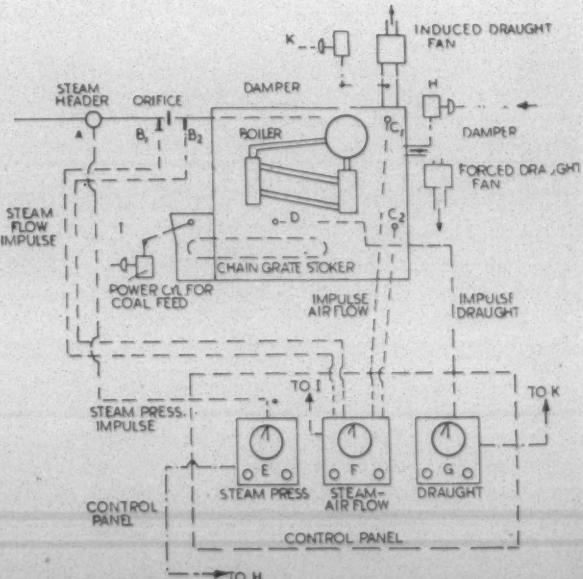


Fig. 1—Control scheme for coal-fired automatic stoker and water-tube steam boiler.

theless, comparative test runs with manual control and with automatic boiler controllers will clearly show the advantages of the latter, and where the same can be expressed in dollars, the case for automatic boiler control is clearly given. Generally speaking, automatic boiler control can now be accepted as a big improvement for a modern steam generating plant. The time can be expected when the installation of automatic controls will be standard practice for new boiler plants of any size.

Measurement is, of course, always present in automatic combustion control, because we must first ascertain the controlling factor in order to determine the required controlling impulse upon which the regulating units, such as control valves, dampers or motor starters, react. Modern automatic controls measure rate of steam flow, draught and combustion conditions and then automatically re-adjust firing, feeding and exhaust of flue gases, etc., to suit these conditions. Perhaps the main advantage of automatic control systems in the boilerhouse is "anticipation" of the magnitude of load changes, with resulting quick and correct control reaction. This eliminates delays, and cuts out human errors and inefficiencies. The methods available to achieve fuel savings by automatic boiler control will be described later.

#### A Practical Approach

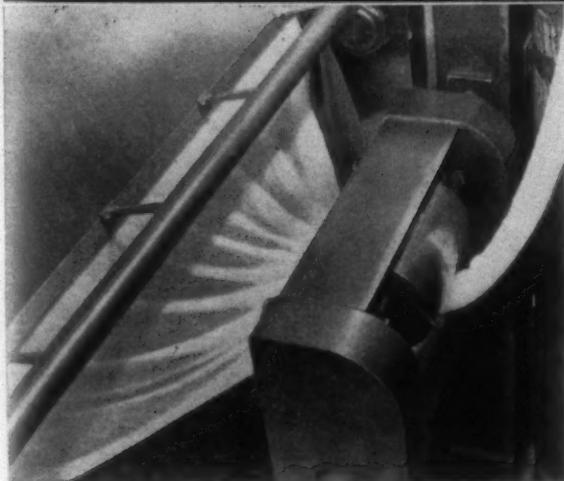
A general analytical approach to steam boiler control problems, irrespective of size and type of boiler and of make of control equipment, should provide the basic information of the plant engineer who is confronted with the

question of automatic boiler control. A non-mathematical simplified consideration of boilerhouse control problems regards the steam boiler as a controlled process, and the various factors such as combustion, boiler feed and the main factor of maintaining steam pressure, as process variables. The more elaborate nature of boiler control, being composed of several controlled factors, can be simplified by breaking down the combined or engineered control into its single controlled elements. By combining controlled factors such as draught, rate of firing, boiler feed, etc., any desired, more or less elaborate control method can then be analyzed and discussed.

#### Automatic Coal Stoker Control

Taking as an example a stoker-fired steam boiler, automatic control is based on keeping a constant steam pressure at a selected point, whether near the boiler outlet, at the main header, or elsewhere. This steam pressure rises or falls according to the boiler load, and the firing rate of the stoker has to be adjusted to be in balance with steam demand. The firing rate of the stoker can be varied by varying the rate of fuel feed in conjunction with control of boiler draught. Efficient combustion requires keeping the best suitable fuel/air ratio; that is, the lowest excess air percentage consistent with perfect combustion of the fuel used has to be maintained. Change of fuel quality necessitates adjustment of the rate of stoker feed and fuel/air ratio. This necessitates the continuous measurement of flow of solid fuel, but although this is being done satisfactorily for measurement, it has not been used as a basis for auto-

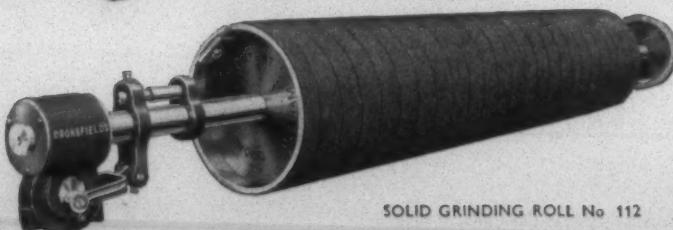
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## MAINTENANCE, ENGINEERING & HANDLING

matic control for stoker-firing and the usual basis is the ratio between steam flow and air flow.

A simplified scheme for automatic control is shown in Fig. 1 for a stoker-fired water tube boiler. The tapping points for detection of controlled factors are: *A* for steam pressure, *B*<sub>1</sub> and *B*<sub>2</sub> for rate of steam flow, *C*<sub>1</sub> and *C*<sub>2</sub> for rate of air flow, *D* for furnace draught. The controllers used are *E* for steam pressure, *F* for steam flow/air flow ratio, and *G* for furnace draught. The regulating units are *H* for induced draught control, *I* for coal feed, and *K* for induced draught fan control. It is assumed that *H*, *I* and *K* are air-operated piston cylinders, actuated by a diaphragm motor from pneumatic impulses derived from *A*, *B* and *C*, respectively. Power cylinders are usually pneumatically actuated, and made in various sizes for thrusts ranging from 1,500 to 6,000 pounds and over at 80 p.s.i. operating air pressure, with full strokes taking four to seven seconds in the unladen state. A bypass pipe fitted in the cylinder pipework allows manual operation of the gear. Strokes range from six to 24 inches and the power cylinder can be used either in horizontal or in vertical position.

### Control

Various modes of control are applicable to boilers. They may be either two-step (on/off or open-and-shut) or they can be gradual or metering (sometimes called modulating).

Considering first the two-step or on/off mode (Fig. 2), it is assumed that the rate of fuel feed, and therefore the rate of input of combustion air, are fairly steady. The main factor to be controlled is the steady steam pressure under a reasonable varying boiler load, and the main control impulse is derived from a pressure tapping taken from the steam header. The control cycle is shown in the lower diagram from *A* to *D*.

The sequence of control actions and reactions is in this instance as follows: The pressure detecting element *A* senses drop and rise of header pressure, and sends out signals to relay *B*. Here these detecting signals are magnified,

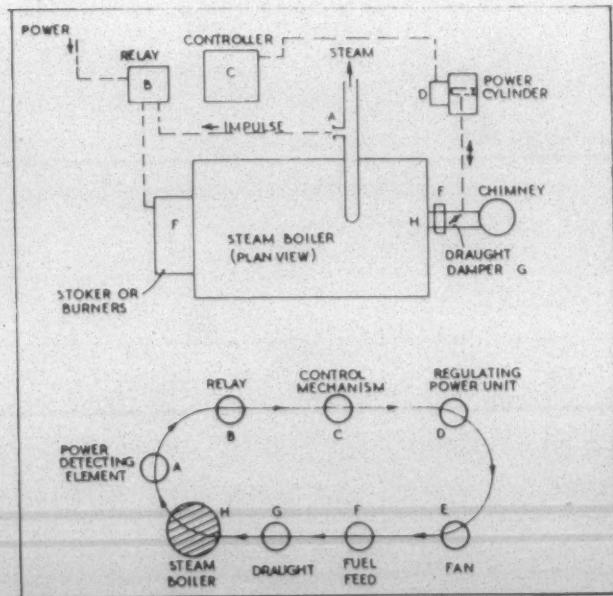


Fig. 2—Two-step method of boiler control for smaller units.

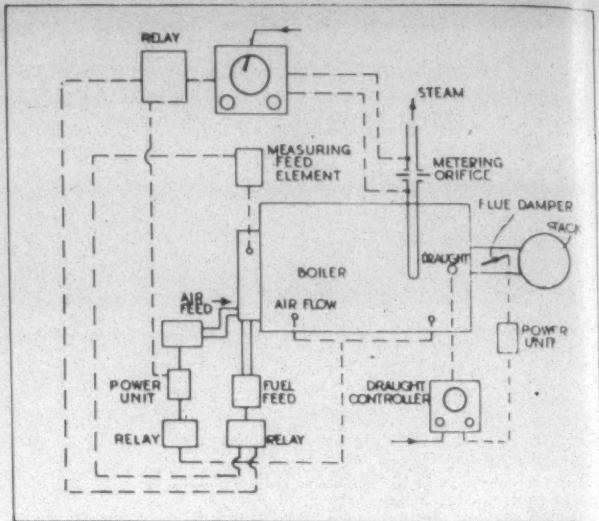


Fig. 3—Gradual control scheme.

either mechanically or electrically, and a power unit starts or stops the air blower *E* to stoker or burner, and also starts or stops the fuel feed *F*. At the same time the draught damper *G* is adjusted, because during off-periods no air for combustion is required and an open boiler outlet damper would cool down the boiler unnecessarily. Increased demand for steam first causes the flue damper to open, and then brings combustion into operation.

The important point to consider is that the boiler itself, as shown shaded in, is part and parcel of the closed loop or control cycle. It may be, therefore, that control of air input *E* and of fuel feed *F* are not sufficient for fully automatic control and that other factors, such as feed-water rate, have either to be adjusted by hand or have to be additionally automatically controlled. For example, a "hold-fire" control may be required during off periods to keep the fire banked.

A diagram for simple gradual positioning control is shown in Fig. 3. The controlled factors are varied in proportion to change of steam pressure, and this is done continuously and not in steps as before. The controlled factors or variables are again fuel feed and air flow for combustion according to control impulses from the detecting pressure element. The main relay may be mechanically operated, i.e., use compressed air or water or oil under pressure, or it may use electrical circuits with electrical or electronic magnification of the control impulses. Adjustment for stoker or burner feed, for air fans and dampers is performed by slow-moving power units which may be pneumatic torque units, power cylinders or the like.

With proportional control, using a steam pressure drop, the fuel and air controllers have a definite position for each steam pressure. With proportional control, pressure variations have to be tolerated of about two or three or more per cent, from zero to full load. The reason is that "offset" (drift or load error) develops with proportional control mode, as is well known.

Certain manual additional adjustments may, therefore, sometimes become necessary when using the simple proportional control mode. The usual control method will hold the desired fuel-air ratio over part of the load range, but for heavy fluctuations, manual resetting of controls has to be done. A separate draught controller has to be used for

damper or fan control. This will produce a slightly negative pressure in the combustion chamber irrespective of boiler load. More elaborate control systems use automatic reset called an "integral" control mode, and they use feed back systems.

#### Engineered Control

The highest form of boiler control equipment uses automatic methods whereby not only actual flow measurement is performed for combustion gases, etc., but these flows are balanced against signal for rate of steam flow as required. In order to discuss the need for reset (integral) control with feedback mechanism, and of reset-rate (second derivative) modes of control, let us refer to Fig. 4 which illustrates the control curve of a pneumatic controller whereby air branch line pressure to a diaphragm chamber determines the position of a pneumatic control valve or a damper motor. The control line is first shown under balanced load conditions, swinging gently in sinusoidal form above and below the set point.

A sudden load disturbance will produce a deviation of the controlled value, for example, a rise or fall of steam pressure from the boiler. With the proportioning control mode alone, there is the danger that after deviation of the controlled value (steam pressure in our example) a new steam pressure might be established corresponding to the new load. A reset or integral mechanism, however, does not allow for such deviation but stabilizes the control point after a certain recovery time, as shown. This is done by an additional feed-back impulse derived from the maximum pressure deviation. The feed-back mechanism automatically "resets" the main control mechanism and brings back the branch line air pressure to a value which stabilizes the controlled factor at its original value.

#### Operating Points

Each manufacturer of automatic combustion control or of boiler control equipment has developed his own schemes often having patented details, but they can all be brought within one of the following classifications. All systems use: (a) a detecting element for the controlled factor, (b) a relay and control mechanism which magnifies the control impulse, and (c) a regulating or power unit which operates the final control element, such as a valve, damper, a motor speed controller and the like. Usually a master controller is actuated from steam pressure, and other controllers deal with each controlled variable.

No control system can be better than its individual components such as controller mechanisms and control gear in general. Whether to use pneumatic, hydraulic or electric systems, or mixed systems such as electronic-pneumatic, depends very much on the preventive maintenance problem, i.e., on the possibility of servicing by the plant staff.

The choice also depends on the nature of the boilerhouse and on the plant in general. A modern power-station can use an elaborate control system but a small plant might select something more rugged. A small central heating boilerhouse will do very well with an all-electric system. Modern oil refineries, which now use extensive electronic telemetering systems, can use the same sort of thing in the boilerhouse because their instrument department is familiar with the maintenance involved.

The desired qualities of control mechanisms are: (1)

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they must be responsive, i.e., have good sensitivity and small instrument time lags; (2) they must be adjustable to produce stable control without hunting or unduly heavy oscillations; (3) the mechanism must be robust and well protected from outside influences, especially where boiler-house conditions are not very clean; (4) the regulating units should be powerful and have position indicators for valves, dampers and other control gear fitted; (5) the de-

tecting elements such as pressure or rate of flow detectors, temperature elements for superheat, should be sensitive to initiate control reactions derived from small steam pressure changes; (6) anti-hunting devices and possible adjustments for control mechanisms should secure stability of all control actions.

What the designers of control systems have to consider is a good compromise between speed of response, and stability of control. This requires the possibility of bringing in means of damping if a too sensitive control mechanism causes cycling which cannot be tolerated.

Promotions, Resignations, Honors,  
Transfers, Appointments, Elections,  
Civic and Associational Activities

## PERSONAL NEWS

O. H. Tousey, vice-president of Penick & Ford Ltd., New York City, has been elected a director of the corporation. Mr.



O. H. Tousey



J. S. Ragland

Tousey has been with Penick & Ford for 26 years, serving as sales manager since 1950. He will continue to be in charge of bulk product sales, a position he has held since March 1957, when he was named vice-president. . . . J. S. Ragland, controller since he joined Penick & Ford in 1954, was elected treasurer, Penick & Ford manufactures corn products.

William G. Lord, president of Galey & Lord, Greensboro, N. C., a member of Burlington Industries, has been elected a vice-president of the Color Association of the U. S. Inc.

Arthur Nuttall has been named superintendent of Pacolet Mfg. Co., New Holland, Ga., manufacturer of sheetings, drills, twills and drapery. Mr. Nuttall was formerly overseer of weaving at Gaffney (S. C.) Mfg. Co., producer of print cloths and broadcloths. A graduate of Clemson College, he joined Gaffney Mfg. in 1950. Prior to becoming overseer of weaving he had worked in the industrial engineering department, as fixer shift foreman and as overseer of warp preparation.

Jackson Woodruff has resigned as head of the dyeing and finishing division in the technical and textile service department of American Viscose Corp. in order to join

his brother in operating a chain of retail fabric shops under the name Calico Corners. Mr. Woodruff joined American Viscose Corp. at Marcus Hook, Pa., 15 years ago. He is active in the American Association of Textile Chemists & Colorists and in the American Society for Testing Materials.

Herbert West, formerly general overseer of carding at the Union-Buffalo Mills, Union, S. C., division of United Merchants & Manufacturers Inc., has been named assistant superintendent of the Buffalo, S. C., plant. . . . Ward Bushee succeeds Mr. West in the carding department. . . . Donald Putman, formerly with the Union plant, has been named personnel manager of the Statesville, N. C., division of United Merchants.

John A. Simmons Sr. has retired as general manager of Lanett (Ala.) Bleachery & Dye Works, division of the West Point (Ga.) Mfg. Co., after serving the dye works for 40 years. Mr. Simmons joined the dye works in 1918 and in 1920 was made superintendent and general manager. In 1939 he was made a vice-president. He served as president from 1951 until 1955 when the dye works was merged with West Point Mfg. At that time he was named vice-president in charge of finishing, continuing to serve as general manager of the dye works.

L. W. Adams has been appointed manager of V-belt sales for The Goodyear Tire & Rubber Co. Mr. Adams, Southern region sales manager for Goodyear's industrial products division since 1953, will operate from the firm's belting plant at Lincoln, Neb. He joined the firm in 1943 as an industrial products clerk and became Pittsburgh, Pa., district manager in 1949. Mr. Adams attended Carnegie Institute of Technology. . . . J. F. Taylor, formerly manager of V-belt sales, is retiring. Mr. Taylor has been with Goodyear since 1930. He

has been manager of the company's V-belt sales department since 1940. Sales territories for the company's industrial products in the Southern region are being combined with other regions.

William H. Ellis, formerly vice-president and general manager of Carolina Narrow Fabric Co. and Carolina Insulating Yarn Co., both of Winston-Salem, N. C., has become executive vice-president and general manager of Tryon (N. C.) Processing Co., producer of novelty yarns. Mr. Ellis has acquired a substantial interest in Tryon Processing, it was reported. Mr. Ellis operated Carolina Narrow Fabric and Carolina Insulating Yarn for over 16 years.

Robert W. Philip Jr., director of the research and development division and a vice-president of Callaway Mills Co., LaGrange, Ga., has been elected president of the LaGrange Rotary Club. Mr. Philip was named to his present position in 1947.

William I. Kent, president of The Kent Mfg. Co., Clifton Heights, Pa., has been nominated for the presidency of the National Association of Wool Manufacturers. The election will take place at the group's 93rd annual meeting on May 8 in the Waldorf-Astoria Hotel, New York City. Mr. Kent, who has been an association director since 1955, would succeed John P. Stevens Jr., chairman of J. P. Stevens & Co. Inc. In the 1953-54 year, Mr. Kent's father, Everett L. Kent, was president of the association.

Frank A. Sullivan, sales manager of industrial and commercial lighting for Wheeler Reflector Co., Boston, Mass., has been appointed general sales manager of industrial and commercial lighting for both Wheeler Reflector and Fullerton Mfg. Corp., newly combined divisions of Franklin Research Corp., Boston. The Wheeler Reflector Division manufactures fluorescent

and incandescent lighting fixtures. The Fulerton Division, in Norwalk, Conn., manufactures a complete line of commercial and engineered fixtures. Mr. Sullivan will co-ordinate sales activities of both divisions.



W. A. J. Peacock

William A. J. Peacock, former vice-president in charge of manufacturing at The Borden Mfg. Co., Goldsboro, N. C., has joined Roberts Co., Sanford, N. C., manufacturer of spinning machinery and modernization equipment, as a sales engineer in the eastern Carolinas. His headquarters will be in Sanford. At Borden he was for 15 years occupied in various positions in spinning, winding and time study, and later became successively assistant general superintendent, general superintendent, assistant treasurer, and vice-president in charge of manufacturing.

Carl O. Kingsbury retired March 31, 1958, after 21 years as New Orleans sales branch manager for Solvay Process Division, Allied Chemical & Dye Corp. Mr. Kingsbury is a graduate of the University of Pittsburgh with a degree in petroleum engineering. He was first employed by Solvay as a salesman at the St. Louis sales branch in 1926. He moved to Solvay's Boston sales office in 1929, and in 1937 was appointed manager of the New Orleans sales branch. . . . Charles E. Varn will succeed Mr. Kingsbury. Mr. Varn received a B. S. degree in biological chemistry from Virginia Polytechnic Institute. He joined Solvay in 1947 as a chemist and three years later became a salesman at Solvay's Charlotte, N. C., sales branch.



Horace Bladon

attended McGill University. Prior to joining Livermore, he was the U. S. representative and a director of William Hollins & Co. Inc. of England. He has worked as executive assistant to the vice-president of Nichols Chemical Co. Ltd., a division of Allied Chemical & Dye Corp. and as an officer of Folkard & Lawrence Inc., textile importers. Mr. Bladon will make his headquarters in Greenville, S. C. at the company's newly-built sales office.

J. Whitley Morris, president and treasurer of Morris Mfg. Co. Inc., Carrollton, Ga., has been elected president of the Carrollton Rotary Club.

Fred J. Weir Jr. has been named assistant manager of the Newberry (S. C.) Mills. Mr. Weir joined Newberry in 1950. At the time of his promotion he was industrial engineer of the plant. He was previously

employed in the industrial engineering department of Clinton (S. C.) Cotton Mills.

T. D. Flack, purchasing agent for Wade Mfg. Co., Wadesboro, N. C., retired last month after 34 years service with the firm. Mr. Flack served as overseer of carding until 1942 when he was made superintendent. He was named purchasing agent in 1954 and served in that capacity until his retirement.

Donald H. Brafford has been named senior chemist, research and development, Stowe-Woodward Inc., Newton Upper Falls, Mass. Mr. Brafford was formerly associated with U. S. Rubber Co. at its Indianapolis, Ind., plant. Stowe-Woodward manufactures rubber and plastic covered rolls and precision molded rubber parts.



Tom J. Hall

Tom J. Hall, textile chemist and dyer, has been appointed North and South Carolina sales representative and technical demonstrator for Emkay Chemical Co., Newark, N. J. Mr. Hall brings with him many years of experience in package dyeing, beam dyeing and the processing of piece goods. In recent years he has been superintendent of dyeing at Wrennawah Cotton Mills Co., Lexington, N. C.

James D. Doughty has been named manager of quality control for the fiber glass division of Pittsburgh (Pa.) Plate Glass Co. Prior to his appointment, Mr. Doughty was associated with the glass division's statistical quality control department. A native of Torrance, Calif., Mr. Doughty joined the company's Mt. Vernon, Ohio, window glass plant in 1942. He is a graduate of Ohio State University and a member of the American Society for Quality Control.

Lewis F. Shackleford, superintendent of The Monroe (Ga.) Cotton Mills, has been elected president of the Monroe Rotary Club. He is a native of Carrollton, Ga., and a graduate of Georgia Tech.

Georges F. Doriot has been elected to the board of directors of The Kendall Co., Boston, Mass. Mr. Doriot has been professor of industrial management at the Harvard Business School since 1929 and president and a director of the American Research & Development Corp. since 1946. At the meeting of the board of directors, all present officers were re-elected.

Bill Terry, director of industrial relations for Fulton Bag & Cotton Mills of Atlanta, Ga., has been elected to the executive committee of the personnel managers division of the Cotton Manufacturers Association of Georgia. The committee serves as the board of directors of the division.

John G. Sibley has been named to the newly-created post of Southern regional manager of Jefferson Chemical Co. Inc., New York City. Mr. Sibley received his B. S. in chemistry from the University of North Carolina in 1947. He joined Jefferson Chemical in 1953 as a salesman and in

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## PERSONAL NEWS

1956 was appointed district sales manager in Charlotte. His headquarters will be at Houston, Tex. . . . William P. Throp III has been designated resident salesman at the company's Charlotte office. Mr. Throp graduated from Rutgers University in 1950 with a B.S. in business administration and in 1957 received a B. S. in chemistry from the University of Texas. He joined Jefferson Chemical in 1957.

Harris Ford has joined Ralph Gossett & Co., manufacturers representatives for textile supplies and machinery, as sales representative in the South Carolina area. . . . Don C. O'Hair of Charlotte, N. C., has been named sales representative for the company in the North Carolina-Virginia area.

Joe Seawell Jr., formerly district sales representative in the Virginia-North Carolina territory for T. B. Wood's Sons Co., Chambersburg, Pa., has been appointed manager of this company's new branch office and warehouse at 485 Stephens Avenue, S.W., Atlanta, Ga. . . . Bill Parsons replaces Mr. Seawell in the Virginia-North Carolina territory, with headquarters at Charlotte, N. C. Mr. Parsons is a recent graduate of Clemson College.

Garland Sligh has been named plant engineer at the Hillside Mill of the Hillcrest Division of Callaway Mills Co., LaGrange, Ga. Mr. Sligh has been with U. S. Rubber Co. since 1950 as assistant to the superin-

tendent in Hogansville, Ga. He graduated from Texas Technological College with a B. S. in textile engineering. He is a member of Phi Psi, national textile fraternity.

A 2,500-foot airstrip at Lavonia, Ga., has been named Shuford Municipal Airport in recognition of the work and help of A. Alex Shuford Jr., president of Shuford Mills Inc., Hickory, N. C. Mr. Shuford aided the city in building the project.

Marshall Walker, laboratory director at the Huntsville (Ala.) Mfg. Co., division of M. Lowenstein & Sons Inc., New York City, has been transferred to the position of standards manager at Orr Mills, Anderson, S. C., another Lowenstein division. Mr. Walker joined Huntsville Mfg. in 1951 after receiving a degree in textile engineering from Alabama Polytechnic Institute. He has been a laboratory director at Huntsville since 1955.

Joseph G. Shedd has been elected a vice-president of the Fulton Bag & Cotton Mills, Atlanta, Ga. Mr. Shedd's new title is vice-president and general manager of manufacturing. Before joining the company, he was vice-president and general manager of Lane Cotton Mills Co., New Orleans, La.

Several organizational changes have been announced by Fieldcrest Mills, Spray, N. C. . . . Walter E. Schacht, assistant foreman in the blanket cutting and sewing department at the company's finishing plant, has been named foreman. . . . Oscar J. Simmons has been appointed foreman of the finishing

department at the firm's Karastan Rug Mill. . . . Haven H. Newton, personnel assistant, has been named industrial relations supervisor at the blanket and sheeting mills. . . . Jones W. Norman, manager, employee relations, has been named industrial relations supervisor at the bedspread and Karastan mills.



T. B. Manheim

Theodore B. Manheim has been appointed to the new post of supervisor of chemical specialties sales for the Ciba Co. In this capacity, Mr. Manheim is responsible for market research and sales of Ciba's textile processing products. Mr.

Manheim graduated from Philadelphia Textile Institute in 1950. In textile processing and related fields, he has served as technical service chemist with Scholler Bros. of Philadelphia, Pa.; as consultant with the high polymer division of the Naval Air Materiel Center, primarily on flame and mildew retardants; as sales engineer in corrosion prevention with Dearborn Chemical Co. of Chicago, Ill.; and as assistant manager of textile sales with E. F. Houghton Co., Philadelphia, Pa. In these capacities he has traveled considerably throughout New England and the Eastern and Southern states.

Warren W. Danner has been named controller of Fulton Bag & Cotton Mills, Atlanta, Ga. In his new post Mr. Danner assumes controller responsibility for the mill division, bag division and corporate operations. He joined Fulton in 1956 as controller of the textile division. Since 1934 he has been associated with cotton mills in Georgia in various engineering and accounting positions.

Dave Delahunt, pioneer in sales and product development in the polyethylene field, has been made sales manager for Shelly Inc., packaging firm at Farmington, Minn., a subsidiary of Brown & Bigelow, advertising specialties house. The company reported that Mr. Delahunt was promoted to the post of sales manager in recognition of his success in building up the sales organization of the firm he joined just a year ago.

Frances Van Hall has been appointed consultant on fabric design and color for Zefran, The Dow Chemical Co.'s new textile fiber. Miss Van Hall, who specializes in hand weaving of ideal samples, has long been identified with color and fabric development programs for U. S. fiber producers, mills and converters in the apparel field. A native of Holland, she has participated in European and U. S. exhibits, and is a winner of the Grand Prix and Gold Medal for outstanding design work.

Arthur L. Jackson has been named plant manager of St. Marys (Ohio) Woolen Mfg. Co., a subsidiary of Fieldcrest Mills, Spray, N. C. Mr. Jackson joined Fieldcrest upon graduation from North Carolina State College in 1948 with a B. S. in textiles. He has served in the company's research

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and quality control department, as manager of the synthetic fabrics mill, as assistant manager of the towel mill and as technical assistant to the manager of the blanket and sheeting mills.

Jim Malloy, manager of Peerless Woolen Mills, Rossville, Ga., has been elected secretary of the Tifton, Ga., Rotary Club for the year beginning July 1.

Carl E. Annas has been named to an executive position in the main offices of Burlington Industries, Greensboro, N. C. Stiles E. Dixon has been appointed to succeed him as vice-president in charge of operation of the Mooresville (N. C.) Mills.

Strother E. Murdoch, who has been at the Cramerton (N. C.) Division of Burlington for the past year in a manufacturing managerial capacity, has been transferred to Mooresville to become general manager of manufacturing.

Herbert J. Smith Jr., vice-president and general manager of the Charlottesville (Va.) Woolen Mills, has submitted his resignation to the firm. Mr. Smith has not revealed his future plans.

James Wilson, president and director of Forstmann Woolen Co., Passaic, N. J., has retired from an active part in the firm's operations. He will continue as a consultant

for the firm and its subsidiaries in the field of fabric development. Mr. Wilson joined the company in 1920. In 1948 he was named vice-president for production, and the following year became a director. He was named president in 1955.

## OBITUARIES

**Samuel Littlejohn McClure**, 80, died recently after a heart attack at his home in Jamestown, N. C. Mr. McClure served for more than 24 years as superintendent of the Oakdale Cotton Mills, High Point, N. C.

# MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

**PAW CREEK, N. C.**—The Thrift Mill of The Kendall Co., Charlotte, N. C., has been sold to a purchaser who will resume textile operations there. The mill was sold to an undisclosed purchaser for a reported \$500,000. The 20 acres of land surrounding the plant were also included in the sale. The Kendall Co. has leased back one of the smaller buildings for use as a research and development center.

**NEW YORK, N. Y.**—The Franklin Process Division of Indian Head Mills here has reported sales of \$9,890,982 for the first quarter ended March 1 as compared with \$5,341,378 in the comparable period last year. The unaudited figures show a net profit of \$445,652 against \$355,965 in the first quarter of 1957. Earnings per share for the first quarter this year were \$1.37 against \$1.29 in the first quarter of last year. The company reported that because of the depressed market conditions in the textile industry, it had been necessary to curtail operations to a certain extent in order to avoid an accumulation of unsold stocks or the sale of goods below cost.

**GASTONIA, N. C.**—Gastonia Textile Mfg. Co. has been incorporated with authorized capital stock of 500 shares at \$100 each. Incorporators are T. R. Barton, Lola A. Moore and C. B. Falls Jr. Mr. Barton is the agent.

**MACON, GA.**—The Bibb Mfg. Co. here has announced the purchase of the Ensign Textile Mill in Forsyth, Ga., which has been closed for the past three years. Robert Train, president of Bibb, said the plant will probably be able to resume operation in three or four months, with 100 to 125 employees. It will be equipped to spin wool fiber. The plant was operated as the Ensign Mill of Burlington Industries until three years ago, when Burlington disposed of it. Mr. Train did not reveal the price paid to recent owners.

**SPARTANBURG, S. C.**—Spartan Mills has announced the installation of 200 new Draper 50-inch X-2 looms in the Beaumont Mill here. The installation of new spindles and a monorail system of cleaners in the spinning room was also announced. The number of new spindles was not disclosed.

**SPRAY, N. C.**—Fieldcrest Mills held open house at its new office building on Stadium Drive here last month. The building contains 42,500 square feet of space. The company's general offices are on the first floor with executive offices and a guest apartment on the second floor. The new structure makes available 30,000 square feet of space needed for manufacturing purposes, according to Harold W. Whitcomb, president. It releases the Nantucket building for use by the automatic blanket mill and additional space in the finishing mill.

**WAXHAW, N. C.**—The plant of the now defunct Waxhaw Mfg. Co. here has been sold to J. Kirk Shute of Monroe, N. C., by Tolar, Hart & Holt Mills, Fayetteville, N. C. The plant contains 31,000 square feet. Thirty-seven houses in the mill village have been bought by Corrum M. Baucom, also of Monroe.

**GREENSBORO, N. C.**—The Textile Workers Union of America has filed an \$80,000 suit in Federal Court on behalf of the employees of three plants of Cone Mills Corp. here. The union is seeking payment for the employees for a Christmas week 1956 vacation without pay, which it says was a violation of the contract. The suit charges that an impartial arbitrator upheld the employees' claims but the company refused to comply. It asks the court for affirmation and enforcement of the arbitration.

**WINSTON-SALEM, N. C.**—Decision on a representation election, at Sovelco Mills here, initiated by the Textile Workers Union of America, has been held up by eight challenge votes. An N.L.R.B. official reported that 14 votes were cast for the union and 15 against it. Sovelco is a dyer and finisher of nylon, rayon and acetate piece goods.

**WEST POINT, GA.**—Decreases in sales and profits for the first six months of the current fiscal year as compared with last year has been reported by West Point Mfg. Co. here. Net sales were \$58,866,000 for the six months ended March 1, 1958, compared to \$68,408,000 for the like period last year. Net income after taxes decreased from \$2,700,000 for the first six months

of the prior fiscal year to \$1,714,000 for the period this year. Earnings per share this year were 56 cents compared with 89 cents last year. In a letter to stockholders Joseph L. Lanier, president, said: "The reduction in sales and profits is due to the generally depressed state of the textile business." Fabrics for industrial uses, which represent a large portion of the company's business, have been in poor demand due to the cutback in automobile production as well as the slowing down in other lines of industrial activity. Mr. Lanier reported, adding that the end of the period of slow business and low selling prices does not appear to be in sight.

**DANVILLE, VA.**—Consolidated net sales for Dan River Mills have held up well during the first three months of this year, and are expected to total within three per cent of the \$41,445,793 recorded in the first quarter a year ago, according to W. J. Erwin, president. Mr. Erwin told stockholders at the recent annual meeting that preliminary figures indicated that net earnings for the period ended March 29, 1958, would be a few cents lower than the 31 cents per share in the comparable period last year.

**COLUMBIA, S. C.**—The contract between the Textile Workers Union of America and the Pacific Columbia Mills, subsidiary of M. Lowenstein & Sons Inc., New York City, has been renewed through June 11, 1960, according to company officials.

**KANNAPOLIS, N. C.**—Earnings of Cannon Mills Co. here rose 21.3 per cent in 1957 despite a 5.9 per cent decline in sales, according to the firm's annual report. Consolidated net income for the year was \$12,871,915 compared with \$10,608,307 for 1956. Total net sales amounted to \$194,155,671 against \$206,432,788. Income of \$2,158,630 from securities was included in the 1957 total. Income from this source in 1956 was \$128,376. The figures include the sales and earnings of Brown Mfg. Co. and its wholly-owned subsidiary, Roberta Mfg. Co. The consolidated report showed total current assets of \$120,935,310 and total current liabilities of \$25,042,909. In 1956 these figures were \$118,926,214 and \$29,597,380 respectively.

## Alabama Textile Group Elects Lehmann

E. R. Lehmann, vice-president of the West Point (Ga.) Mfg. Co., was named president of the Alabama Textile Manufacturers Association at the group's April 17 meeting in Biloxi, Miss. Mr. Lehmann succeeds F. M. Lyon of Opp, president of the Opp and Micolas Cotton Mills, who was elected chairman of the association's board of directors. Mr. Lyon in turn succeeds R. C. Moyer, general manager of the Linen Thread Co., Anniston, Ala.

Joel E. Johnson, vice-president of Geneva (Ala.) Cotton Mills and Bama Cotton Mills, Enterprise, Ala., was elected vice-president of the association. Dwight M. Wilhelm of Montgomery was again named executive vice-president, and Mrs. Sara Davenport of Montgomery was chosen secretary.



**E. R. Lehmann**

Mr. Lehman has been in the textile field since 1919 when he joined Dixie Mills at LaGrange, now a subsidiary of West Point Mfg. While at Dixie he was granted a leave of absence and attended Clemson College, majoring in textiles during 1921 and 1922. At Dixie he was an assistant foreman and assistant plant manager before being transferred in 1930 to the Langdale Mill Division of West Point Mfg. as plant manager. Since September 1947, he has been vice-president in charge of industrial and plant relations for West Point. He has been with the company for 39 years.

Mr. Lyon, in his remarks as outgoing president of the association, scored the U. S. Government's cotton pricing program which permits the foreign mill to buy American cotton at the world price while forcing the domestic mills to buy cotton under the price support program. According to Mr. Lyon, the mounting tide of imports in this country from low-wage nations is beginning to affect many large industries besides textiles.

The retiring president urged the Federal Government to protect the domestic industry with tariffs or quotas or

both so that foreign imports cannot enter the country to take over our carefully and costly developed markets.

## Piedmont A.A.T.C.C. Meeting April 26

The Piedmont Section of the American Association of Textile Chemists & Colorists will hold its Spring meeting April 26 at the Hotel Washington Duke, Durham, N. C. The first meeting will be that of the research committee at 10:15 a. m. At that time the following reports or papers will be presented: Report of the A.A.T.C.C. Executive Committee on Research, Dr. P. B. Stam, councilor; "The Effect of Thermal History on the Dyeing Properties of the Thermoplastic Fibers," N. A. Truslow; final report of "A Study of the Action of Dispersing Agents in Pigment Vat Dyeing," Vincent B. Wright; preliminary report on the "Effect of Resin Finishing on Light Fastness of Vat Dyes," Dr. L. B. Arnold Jr.; outline of the program on "The Mechanism of Carrier or Accelerant Dyeing of Hydrophobic Fibers," Dr. V. S. Salvin; "The Orientation of the Research Committee Program to Best Serve the Interests of the A.A.T.C.C.'s Individual and Corporate Members," Sydney M. Cone Jr., vice-president, Cone Mills Corp.

Following the research committee's meeting at 12:30 p. m. is the officers' luncheon. The technical session will be at 2:30 p. m. and will feature George C. Ward, head of the dyeing and finishing process development group of the Celanese Corp. of America. Mr. Ward will discuss "Cotton Dyehouse Processing of Arnel/Cotton Blends."

A social hour will be held from 6 until 7 p. m. followed by the banquet at 7:15 p. m. William H. Ruffin, president of Erwin Mills, Durham, will be the banquet speaker.

## Politz To Address N.A.W.M.

Alfred Politz of Alfred Politz Research Inc. will speak at the afternoon session of the 93rd annual meeting of the National Association of Wool Manufacturers on May 8, in the Waldorf-Astoria Hotel, New York City. Mr. Politz's subject will be "When Can Consumer Research Be the Basis for Marketing Success?" He will outline criteria for determining whether consumer research can or cannot be helpful on marketing problems. He also will discuss some of the findings made by his firm in consumer research studies for the American Institute of Men's & Boy's Wear Inc., promotional agency to which many woolen and worsted mills belong.

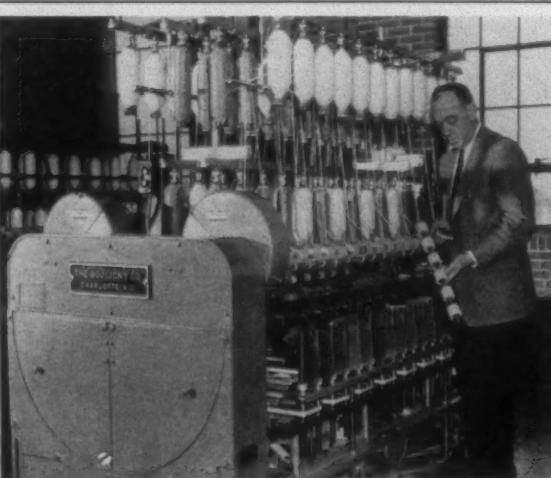
## Poor Management Seen In Textile Industry

In a rare piece of self-appraisal, M. Lowenstein & Sons has accused the textile industry of poor management of its affairs. A letter to the stockholders included in the company's annual report says, "Our industry has not shown the industrial statesmanship required to put its own house in order."

"To operate plants on three shifts, six days a week, or capacity operation with resulting overproduction, when a five-day week is sufficient to meet normal demand," the letter continued, "entitles none of us to bouquets." The company said it was studying the approach of less volume, less expense and more profits and is determined to come up with the right answers.



**Leon Lowenstein**



THE BOULIGNY CO. of Charlotte, N. C., recently completed the renovation of a 36-spindle spinning frame at the North Carolina State College School of Textiles. Used in the modification was the Bouligny Tru-Draft umbrella creel which is designed to keep the creel and the frame free of lint. The changeover, representing an investment of some \$4,000, is being inspected here by Prof. E. B. Grover, head of the school's department of yarn technology.

Lowenstein & Sons total sales for 1957 reached \$460,871,239 against \$440,414,706 in 1956. Earnings, after taxes, for the year were \$3,035,223 or \$1.07 per share of common stock against \$5,665,856 or \$1.98 per share in 1956. The ratio of current assets to current liabilities was listed as 7.24.

The company reported the commencement of the liquidation of its denim division, Lane Cotton Mills, New Orleans, La. The mill was losing money and showed little promise for the future, according to the company. The towel operation at Roxboro, N. C., was moved during the year to a central operation at Columbia, S. C., and steps are being taken to dispose of the Roxboro facilities.

Some \$3,500,000 was spent in 1957 for improvements, according to the report. Another \$5,000,000 has been budgeted for these purposes in 1958. The company's fabrics are marketed under a variety of brand names identified with Lowenstein, Pacific and Wamsutta.

### The Houghton Line Continues On

The April issue of *The Houghton Line*, direct-mail ad magazine of E. F. Houghton & Co., manufacturer of textile processing products, marks the 50th anniversary of the publication. The fifth oldest house organ now in existence, *The Line* has been described by one national weekly as a "folksy editorial magazine which Houghton says can be described as in a class by itself—a class which Madison Avenue would likely call strictly corn."

The magazine was started in 1908 by the late Charles E. Carpenter, then general manager of Houghton. It con-

tinues under the "near-editorship" of Aaron E. Carpenter, his son and presently board chairman. Mr. Carpenter calls himself "Near Editor" because he considers himself a "poor imitation of the real thing."

The journal is one of the last strong-holds of the first-person journalism which held sway at the turn of the century. Very little has changed about the magazine since its appearance 50 years ago. Its basic format is still the same. And, as the company points out, it has never won prizes in an art competition.

*The Line* is spiced with such gems as, "If you are uncertain as to whether you are in love with a girl or not, and want to make sure, marry her."

### Time Won't Cure Industry Ills

The mere passage of time will not pull the textile industry out of the current recession, according to Richard R. Higgins, president of The Kendall Co., Boston, Mass. Speaking to the Greater Charlotte Textile Club, April 7, Mr. Higgins said it will take more than the mortality of spindles and more than an improvement in the economy to bring satisfactory profits to the industry.

The textile industry, as no other, is dominated by production factors in contrast to sales factors, according to Mr. Higgins. Some of the factors named by Mr. Higgins are: inflexibility of schedules—a cotton mill is a co-ordinated unit and the tendency is to run the whole mill on one schedule; take-home pay—to meet competition in other industries, the mill has a tendency toward overproduction so that the worker has competitive take-home pay;

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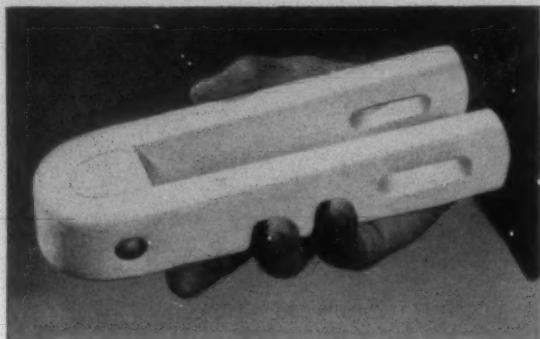
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return on investment—the pressure to maintain the 120-hour week is always present since the pay-out on all new investments is figured on that assumption; the fallacy of the staple commodity—looms can always be put on standard prints or standard sheeting with reasonable assurance that some time at some price that production can be sold.

Although increased consumption is important, according to Mr. Higgins, he said his plea was for attention to the other side of the problem, the control of production. "The planning and control of production should be a continuing matter and not just an emergency matter," he concluded.

## Huffines To Head Investment Firm

Robert L. Huffines Jr. has been named to head Worth Fund Inc., a closed-end investment company specializing in stocks of firms in the textile and allied industries. The company received a Delaware charter on July 8, 1957. Capitalization of the firm will be four million authorized shares with a par value of one dollar. Some 400,000 shares will be offered at \$12.50. Mr. Huffines is presently board chairman of Frank G. Binswanger Inc., Southern Division, one of the country's largest industrial real estate firms.

## T.R.I. Officers Elected

Walter Regnery, vice-president of Joanna (S. C.) Cotton Mills Co., has been re-elected president and chairman of the board of trustees of Textile Research Institute, Princeton, N. J. The election was held at the 28th annual conference of the institute at the Hotel Commodore, New York City.

Other officers re-elected include William E. Clark, vice-president and general manager of the textile division of U. S. Rubber Co., vice-president and chairman of the executive committee; Dr. Bruce B. Allen, technical director, textile division, Celanese Corp. of America, treasurer; and Paul Alford Jr., T.R.I. secretary and assistant treasurer.

Four new trustees were elected. They are Dr. Carlyle Harmon, vice-president, research, Chicopee Mfg. Corp., affiliate of Johnson & Johnson, Milltown, N. J.; Dr. J. G. McNally, Tennessee Eastman Co., Kingsport, Tenn.; Jackson Woodruff, textile research department, American Viscose Corp., Marcus Hook, Pa.; and George H. Hotte, director fiber sales and service, National Aniline Division, Allied Chemical & Dye Corp., New York City.

## More Money Asked For Fiber Research

The Agricultural Research Service of the U. S. Department of Agriculture has asked Congress for \$3.6 million to develop and improve cotton fibers, fabrics, processes and machinery in the coming fiscal year. This would mean a boost of \$865,000 in cotton research funds over the last fiscal year.

Greater emphasis is being given to fiber research, according to Dr. G. W. Irving Jr., deputy administrator of Utilization Research and Development for the Agricultural Research Service. In testimony before the House Appropriations Subcommittee considering the department's request for money, Dr. Irving outlined a number of projects including: research to improve characteristics of cotton fibers and yarns; efforts to embody cotton with creping qualities; intensified study of chemically treated cotton to supply mills with data to make optimum fabrics out of

treated cotton; and improvement of spinning efficiency of cotton by a systematic study of correlation between fiber properties and yarn and fabric properties.

Dr. Irving reported that last year's \$100,000 study of wash-and-wear cottons produced a wrinkle-resistant, crease-retaining, ready-to-wear cotton garment, not yet available commercially but soon to be released. The research service also plans to use a pilot plant to study the effect of genetic, environmental and dietary factors on the quality of fabrics produced from domestic wools and to determine what variables could be introduced to improve fabric quality. Evaluation of processing properties of chemically treated wools would also be made.

### Freak Accident Takes Mill Man's Life

A freak accident took the life of a North Carolina mill overseer early this month. William Kay Murray, 47, carding room overseer for Gambrill & Melville Mills Co., Bessemer City, N. C., was electrocuted while using an electric drill on a wet floor in the mill.

The floor had become flooded during the extinguishing of a fire in the carding room. Mr. Murray was in the process of drilling a hole in the floor to let the water run out when the current grounded through his body killing him.

### Cotton Manufacturers To Meet April 23-25

The Boca Raton Hotel & Club, Boca Raton, Fla., will be the site of the 58th Annual Convention of the Cotton Manufacturers Association of Georgia, April 23-25, according to Frank L. Carter, secretary. Approximately 400 Georgia textile executives, representatives of supplier firms, guests and wives will be on hand for this first meeting of the group to be held in the U. S. since 1955. The two previous conventions were held in Nassau, Bahamas.

Halbert M. Jones, president of Waverly Mills, Laurinburg, N. C., and president of the American Cotton Manufacturers Institute, will be the principal speaker. Mr. Jones' address will be delivered at the final business session, Friday morning, April 25. The president's annual message, by George H. Hightower, vice-president of Thomaston (Ga.) Mills, will be given at the opening business session on Thursday morning, April 24.

Other items on the business agenda include: reports on association activities by T. M. Forbes, executive vice-president, and by the chairmen of the various committees; a report on the activities of The Textile Education Foundation by the foundation president, John P. Baum, Milledgeville, a vice-president of J. P. Stevens & Co.; a report of traffic activities by Paul P. Watkins, traffic manager of The Georgia-Alabama Textile Traffic Association; and the election and installation of new officers and directors. Henry McD. Tichenor, president of Walton Cotton Mills Co., Monroe, is chairman of the nominating committee.

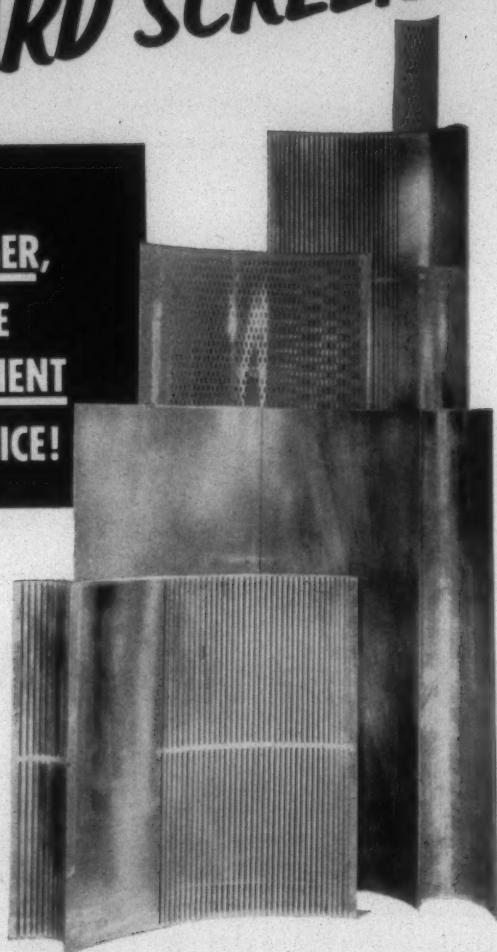
A special feature of the Thursday business session will be "Who Said So?" a three-act dramatic production by the association's public relation committee. Paul K. McKenney Jr., vice-president of Swift Mfg. Co., Columbus, Ga., who is chairman of the committee, will be narrator. Members of the public relations committee will appear in the production.

The annual golf tournament will be played on Thursday afternoon, April 24, at the Boca Raton Hotel course. The golf committee members are: C. Russell Gill, South-

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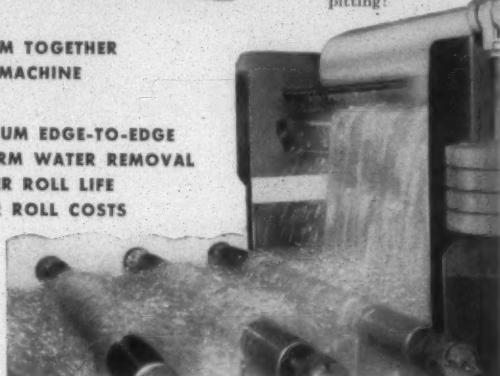
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ern Sizing Co., East Point, chairman; E. F. Graham, Diehl Mfg. Co., Chamblee; and J. E. Wright, Saco-Lowell Shops, Atlanta. Golf prizes will be awarded to both active and associate members in the categories of low and second low net, and low gross. A ladies golf tournament will be held if a sufficient number of entries are received.

Card tournaments will also be held on Thursday afternoon under the direction of Mr. and Mrs. Ingraham Dickinson, Southern Belting & Transmission Co., Atlanta, and Mr. and Mrs. W. D. Ellis, Southern Mills Inc., Atlanta. Prizes will also be awarded for the largest and next to largest fish caught on Wednesday and Thursday. C. W. Walker of the Southern States Equipment Corp., Hampton, and W. N. Dulaney of the A. E. Staley Co., Atlanta, will supervise the contest.

Prizes in all contests, and draw prizes, will be awarded at the convention banquet, on Thursday evening. W. D. Ellis will make the awards, to be assisted by the chairmen of the various events. Other association officers are W. C. Vereen Jr., president of Moultrie (Ga.) Cotton Mills, vice-president; and Louis L. Jones Jr., president of Canton (Ga.) Cotton Mills, treasurer.

### Whittier Re-Named Textile Committee Head



B. L. Whittier

Prof. Benjamin Whittier of the North Carolina State College School of Textiles has been re-elected chairman of the D-13 Textile Committee of the American Society for Testing Materials at its meeting in Washington, D. C., last month. Other officers of the committee are Dr. Arthur G. Scroggie, Du Pont Co., first vice-chairman; Dr. Ruby Worner, U. S. Department of Agriculture's Southern Research Laboratory, second vice-president; and Herbert A. Ehrman, formerly with the Bureau of Standards, secretary.

The committee also approved for letter ballot a method for measuring recovery of knit fabrics.

The B-1 subcommittee on Chemical and Performance Test Methods approved the method which uses an instrument made by the U. S. Testing Co. The subcommittee also decided to change the procedures on a water repellancy test to obtain agreement with the American Association of Textile Chemists & Colorists.

The B-9 subcommittee on Fabric Test Methods approved a letter ballot to delete the trapezoid method of tear testing. The subcommittee also named Norman Abbott of Fabric Research Laboratories, Dedham, Mass., chairman.

The B-7 subcommittee on Fiber Test Methods decided to circulate a questionnaire to determine who is interested in serving on two proposed task groups, one for bulk density and the other for clamps for single fiber tensile testing. Progress reports were heard by the committee on task groups concerned with fiber crimp measurement, brittleness and elastic recovery properties.

### Seminar On Radioisotopes In Textiles

A seminar on "Utilization of Radioisotopes in Textiles" will be held April 24-25 at Clemson College, Clemson, S. C. The two-day seminar, first in a proposed series in the U. S., is designed jointly for management and technical personnel, in research and production. Sponsoring is the

Clemson School of Textiles in co-operation with the Regional Advisory Council on Nuclear Energy, Southern's Governors' Conference; South Carolina Textile Manufacturers' Institute and the U. S. Atomic Energy Commission. It will be held in The Clemson House.

Representatives of national, regional and state textile organizations and textile schools have also been invited to attend, according to Dr. W. T. Rainey, program chairman. Dr. Rainey, newly-named head of the Clemson College research department, which originated within the School of Textiles, calls the seminar one of the most important steps in development of industrial uses for radioactive materials in the South. "Clemson's role in the seminar," says Dr. Rainey, "is to assist industry with a subject that could greatly further industrial improvements in South Carolina." The textile industry comprises approximately 70 per cent of both money and people in the state.

The seminar will study the application of isotopes to production and research in textiles. "As of now," Dr. Rainey said, "practical applications are relatively few. There has been little research into its textile use." Proposed uses involve starches, resins and other finishing materials. Isotopes are currently being used successfully in control and production of plastic coverings and films. "A probable application," theorizes Dr. Rainey, "is for insuring uniformity of production, which would increase quality and decrease costs."

The opening-day program, Thursday, April 24, will be devoted primarily to management, with technical papers and discussions on Friday, April 25. Presiding over the seminar will be Alan B. Sibling, president, S. C. Textile Manufacturers' Association; Dr. Alfred T. Clifford, chairman, national committee on nuclear radiation of the American Association of Textile Chemists & Colorists; Gaston Gage, acting dean, Clemson School of Textiles; Russell B. Newton, vice-chairman, research and technical service committee of the American Cotton Manufacturers Institute, and Dr. Rainey.

### Textile Merchants Back Dorn Bill

The Association of Cotton Textile Merchants of New York has added its support to the Dorn Bill (H. R. 11250) as an alternative to the Reciprocal Trade Bill which expires June 30. According to the association, the new legislation would restore the original concepts of the Reciprocal Trade Act and prevent injury and loss of employment on the part of U. S. industry. The administration has called for the continuance of the reciprocal trade agreement saying that the public wants it continued. According to W. Ray Bell, president of the association, extraordinary benefits have been bestowed on foreign producers at the expense of American industry.

### Georgia Personnel Managers Meet

Ed G. Kelly of the Brighton Division, Burlington Mills, Shannon, Ga., has been elected chairman of the personnel managers division of the Cotton Manufacturers Association of Georgia. The election came at a general meeting of the division at Georgia Tech in Atlanta on March 26. Mr. Kelly succeeds John W. Alexander of the U. S. Rubber Co., Hogansville.

Sam A. Cook, of the Riegel Textile Corp., Trion, was elected vice-chairman; F. L. Carter, Atlanta, was re-elected



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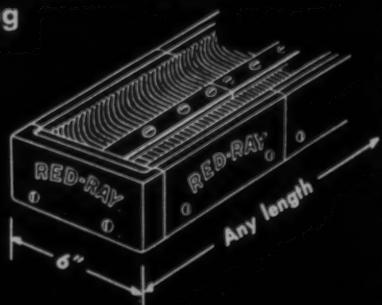
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secretary; and O. B. Moore Jr., Atlanta, was re-elected assistant secretary. Four new executive committee members were elected to three-year terms. They were: Virgil Adams, The Jefferson (Ga.) Mills; A. T. Hanson, West Point (Ga.) Mfg. Co.; Leon Mott, Coats & Clark Inc., Albany; and W. G. Terry, Fulton Bag & Cotton Mills, Atlanta.

T. M. Forbes, executive vice-president of the Cotton Manufacturers Association of Georgia, made the principal address to the gathering of 55 personnel executives of the Georgia textile industry. Mr. Forbes spoke on "The Businessman's Political Responsibilities." Awards in the association's annual safety contest were presented by J. H. Cheatham Jr., safety contest committee chairman and a vice-president of Dundee Mills, Griffin.

### N. C. Textile Group Elects New Directors

The North Carolina Textile Foundation, meeting at N. C. State College School of Textiles recently, elected 12 new directors. They are Charles E. Baxter, secretary of J. P. Stevens & Co., Greensboro; Hyman L. Battle, president of Rocky Mount (N. C.) Mills; R. M. Cushman, executive vice-president, Amerotron Corp., Aberdeen; Harry L. Dalton, Philadelphia, Pa., vice-chairman of American Viscose Corp.; Louis W. Garrou, general manager, Waldensian Hosiery Mills, Valdese; J. A. Henley, manager textile division, Talon Inc., Stanley; Halbert M. Jones, president, Waverly Mills, Laurinburg; J. Franklin McCrary, treasurer, McCrary Hosiery Mills, Asheboro; Edwin Morgan, president, Morgan Cotton Mills, Laurel Hill; Charles R. Reynolds, vice-president and general manager, Spindale (N. C.) Mills; Chester H. Roth, president, Chester H. Roth Co., New York City; and E. M. Spencer, president, Valdese (N. C.) Mfg. Co.

### Research Conducted On Wash-And-Wear

Progress has been made in the development of methods for applying wash-and-wear treatments to finished cotton garments using standard commercial drycleaning equipment, according to Dr. Joseph R. Wiebush, director of research for the National Institute of Drycleaning. Dr. Wiebush made the report during a recent meeting of research advisers of the cotton chemical laboratory of the Southern Utilization Research & Development Division of the Agricultural Research Service, U. S. Department of Agriculture in New Orleans, La. The institute is conducting research on the project under a contract with the Department of Agriculture and the Southern Division.

Dr. Wiebush indicated that some of the problems encountered in their research have been solved already, and they have not encountered any which seem insurmountable. He pointed out that there are about 34,000 drycleaning plants in the country, all of them equipped with boilers, presses, hot boxes and other equipment suited to the application of wash-and-wear finishes.

The advisers met at the Southern Laboratory March 24-26. The first day of the meeting was devoted to research on wash-and-wear cotton fabrics. Dr. J. David Reid, head of chemical finishing investigation, outlined the wash-and-wear research program. Other members of the cotton chemical laboratory then reported on different phases of the work, such as projects carried out in co-operation with commercial clothing manufacturers, problems encountered

in the development and commercialization of wash-and-wear cotton fabrics; and new materials for imparting wash-and-wear properties.

The second day was given over to discussions of various phases of research. W. A. Reeves discussed "Imparting Hydrophobic and Oleophobic Properties to Cotton," and Dr. Leon Segal reported that treatment with aluminum triacetate and perfluoro-octanoic acid gives cotton fabric a colorless finish which is also oil repellent and water resistant; other finishes vary in their durability, and resistance to water, oil and soiling. Dr. H. P. Lundgren discussed the chemical finishing of wool, and Dr. Fred Senti described the "Highlights of Chemical Researches on Dialdehyde and High Amylose Starches."

During the final session, the advisers reviewed research projects now under way and made suggestions for their improvement, and recommended new projects for consideration in the future program. The discussions closed with the advisers' report to the director of the division.

### Textile Standards Group Elects Griffin

Byron A. Griffin, West Point (Ga.) Mfg. Co., has been elected president of the Southern Textile Methods & Standards Association at the group's two-day Spring meeting in the Clemson House, Clemson, S. C. Other new officers are Charlie L. Land, Woodside Mills, Greenville, S. C., vice-president; and R. L. Altman, West Point (Ga.) Mfg. Co., treasurer.

The association's new directors are Tom Williams, Riegel Textile Corp., Ware Shoals (S. C.) Division; R. D. Sellers Jr., Southern Bleachery & Print Works, Taylors, S. C.; George Funderburk, U. S. Rubber Co., Hogansville, Ga.; and W. A. Funderburk, The Kendall Co., Charlotte, N. C.

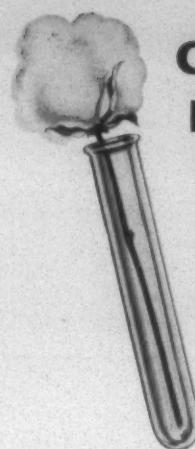
Robert E. Pomeranz, president of the Roberts Co., Sanford, N. C., told the group that great advances can be expected in yarn preparation in the next five to ten years. These include spindle speeds of 12,500 to 15,000 r.p.m.; 50 to 60 hank roving; drafts of 50 to 55; front roll speeds of 175 to 180; ring sizes of 2 1/4 to 2 1/2 inches, with traveler speeds of 7,000 to 8,000 feet a minute; and 12-inch bobbins carrying 10 1/2 to 11 ounces of yarn.

### Fellowships Offered For Study In Ginning

Three fellowships for graduate study in cotton ginning engineering at Clemson Agricultural College will be awarded for the 1958-59 school year by the Foundation for Cotton Research and Education. The fellowships carry stipends of \$2,500 each for one year's study toward a master's degree in agricultural engineering with a concentration in ginning engineering.

### Launderers And Finishers Meet

Representatives of the National Association of Finishers of Textile Fabrics and the American Institute of Laundering met last month in what was the first of a series of meetings aimed at exploring problems connected with the current wash-and-wear trends in cotton. Meeting in the Empire State Club, New York City, the group gave special attention to problems relating to chlorine retention and to the yellowing of some finishes when applied to white as well as prints and woven designs containing white areas, especially with the use of the urea formaldehyde types of



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The presentation in this book makes it useful for the practical mill man as well as the textile student. The old classifications dealing with cotton, wool, or silk manufacture have been done away with. In their place has been substituted certain basic precepts which are common to all systems of processing. This technique, therefore, is similar to chemical engineering, where instead of studying certain products, like the manufacture of gasoline, the basic operation, such as distillation or mixing, is studied. An approach of this type gives broader and more useful information than was possible heretofore. It is expected that this will make the book suitable as a text and it is noted that the deans of the textile schools recently stressed a need for books of this type.

This book contains numerous illustrations and graphs. It is complete with an index and a bibliography.

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finishes. The joint committee hopes to come up with practical suggestions which will minimize the problem for consumers.

Representing the finishers association were J. M. Cole, Cold Spring Bleachery, Yardley, Pa.; Ernest J. Chornyei, Bradford (R. I.) Dyeing Association; Sydney M. Cone Jr., Cone Mills Corp., Greensboro, N. C.; W. R. MacIntyre, Joseph Bancroft & Sons Co., Wilmington, Del.; Arthur G. Poor, Standard Bleachery & Printing Co., Carlton Hill, N. J.; C. J. Quinn, Sayles Finishing Plants, Saylesville, R. I.; Julian Robertson, North Carolina Finishing Co., Salisbury, N. C.; and Joseph E. Hoesl, secretary of the association.

## Radioisotopes Have Potential In Textiles

Radioisotopes have considerable potential utility in process development and control, and in research in the textile industry, according to Howard J. White Jr., director of research for Textile Research Institute. Mr. White's statement was made in a paper delivered to the Atomic Energy Management Conference, held recently in Chicago, Ill. The conference was co-sponsored by the Atomic Industrial Forum and the National Industrial Conference Board.

Mr. White pointed out that the textile industry, to date, has not used radioisotopes to any great extent. He pointed out that development of methods for controlling processes such as oiling, padding and sizing by incorporating a radioactive material in the particular medium will probably be hindered by the fact that appreciable quantities of non-localized radio-active material in a plant will cause complications involving health physics and the control of contamination.

## Narrow Fabrics Institute, April 28-30

The Narrow Fabrics Institute will hold its Spring meeting at Sedgefield Inn, Greensboro, N. C., April 28-30. The meeting is open both to active and associate members, and also to Southern manufacturers of narrow fabrics not presently affiliated with the institute. The schedule includes a board meeting, separate meetings of the tape and webbing sections, and a number of committee meetings. The institute recently instituted a joint advertising program, and the board will evaluate its effectiveness. A number of social events are scheduled, including a golf contest for the men, and a bridge contest for the ladies.

## Lowell Tech Offers Scholarships

Lowell Technological Institute has 115 scholarships valued at \$27,000 available next Fall, 25 of which are open to freshmen, Dean of Students Richard W. Ivers has announced. In addition there are four fellowships with a total value of \$5,100 for which applications now are being accepted. Scholarships are open in textiles and other fields. Applications may be made and further information received by writing to the Director of Admissions, Lowell Technological Institute, Lowell, Mass.

## King Cotton Still Reigns

King Cotton will not be ready to abdicate in favor of the man-made fibers for many years to come, if ever, according to G. Dent Mangum Jr., assistant co-ordinator of

research in the School of Textiles of North Carolina State College. Mr. Mangum made his prediction at the 11th annual Cotton Merchandising Clinic in Austin, Tex., April 10.

In spite of the many advantages of synthetics, Mr. Mangum said, it will be many years, perhaps never, before a man-made fiber could be made that would be referred to universally as a fiber that is as good all-around as cotton. High tensile strength under both wet and dry conditions and good moisture regain were cited among the virtues of cotton.

Mr. Mangum also pointed out that the outstanding properties of wool—warmth, soft hand, high extensibility and good recovery—and its ability to absorb a third of its own weight of moisture without feeling damp, could not be duplicated in any one man-made fiber.

### Fulton To Retire 240,000 Shares Of Stock

Stockholders of Fulton Bag & Cotton Mills at a special meeting held in Atlanta recently approved a pro-rata retirement, at a price of \$30 per share, of 240,000 shares of the company's common stock, representing half of the 480,000 shares outstanding. Jay Levine, chairman of the board of the 90-year-old company said, "The \$7,200,000 now being paid to stockholders represents funds no longer required in the operations of the business."

The company recently sold its branch bag manufacturing plants located outside of Atlanta to concentrate on the operation of its large integrated Atlanta textile mill. The firm's Atlanta plant consists of over 65,000 spindles, 1,500 looms, and bleachery, modern printing and finishing facilities. Products manufactured are osnaburgs, leno fabrics, cotton sheetings, towels and toweling, canvas and other specialty cotton fabrics. In addition, the company manufacturers textile bags, tents, tarpaulins, furniture pads, and handles a large volume of custom finishing for the trade.

### Woven Cotton Production Up

Production of cotton broad-woven fabric in the fourth quarter of 1957 was 2.4 million linear yards, five per cent above the previous quarter's total of 2.2 million linear yards but eight per cent below the total of 2.6 million linear yards for the last quarter of 1956, according to figures given by the Bureau of Census.

Looms in place in cotton mills at the end of December 1957 totalled 355,964. Some 469 million loom hours were recorded for the quarter as compared with 455 million in the preceding quarter and 516 million in the final quarter of 1956.

### Cotton Consumption Down

Cotton consumption in the U. S. during the month of February amounted to 639,635 running bales compared with 799,800 in January and 687,905 bales in February.

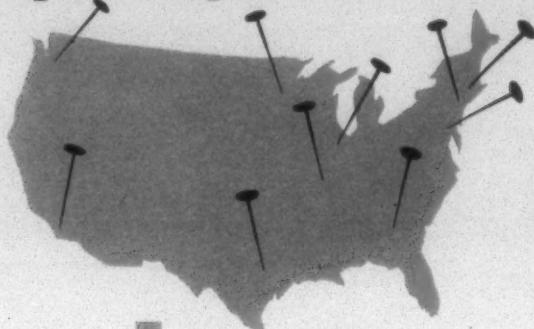
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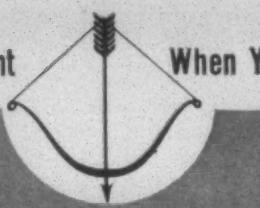


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1957. For the seven months ended February 1958, consumption was 4,812,943 running bales against 5,269,165 for the same period in 1957. Consumption of foreign cotton totalled 6,427 running bales during February against 8,208 in January.

Some 32,296 running bales of man-made fiber staple were consumed by the U. S. in the month. January consumption was 42,390 bales and February 1957 consumption was 35,460 bales.

Consumption of linters during the month totalled 90,698 running bales against 99,026 bales in January and 113,664 during February 1957. All figures are taken from statistics released by the Census Bureau.

#### Synthetic Goods Production Up

Production of broad woven goods of man-made fibers and silk amounted to 585 million linear yards during the fourth quarter of 1957, according to the Bureau of Census. This was four per cent above the third quarter 1957 level and two per cent above the fourth quarter 1956 output. Rayon and acetate fabric production was five per cent above the previous quarter, but three per cent less than the output during the comparable period of 1956. Production of other man-made fiber fabrics, including silk, was at approximately the same level as the previous quarter but 13 per cent above the fourth quarter 1956.

Some 100,235 looms were reported in place during the period at man-made fiber and silk weaving mills. They were in operation 126,630,000 hours in the quarter as compared with the loom-hour total of 124,219,000 for the previous quarter and 132,728,000 for the last quarter of 1956.

#### Figures On January Exports Released

Exports of cotton cloth from the U. S. in January 1958 were down to 38,151,000 square yards, valued at \$11.6 million from the January 1957 total of 45,689,000 square yards valued at \$12.5 million, according to figures given by the Census Bureau. December 1957 exports of cotton cloth totalled 44,840,000 square yards valued at \$12.3 million. Export value of other cotton products dropped from \$7.5 million in January 1957 to \$6.5 million for January of this year. January exports of wool manufactures were \$700,000 against \$600,000 in January 1957 and \$800,000 in December 1957.

#### Wool Fiber Consumption Figures Given

The weekly average rate of fiber consumption on the woolen and worsted systems in the U. S. in February was 14 per cent above the January rate but 22 per cent below that of February 1957. The weekly average raw wool consumption during February was 6,040 thousand pounds (scoured basis) or ten per cent above the January level, but 32 per cent below that of February 1957. Consumption of apparel class wool was 12 per cent above the January level but 31 per cent below that of February of last year. Consumption of carpet class wool was seven per cent above the rate of the preceding month but 35 per cent below the February 1957 rate. Consumption of fibers other than raw wool averaged 5,403 thousand pounds per week, or 18 per cent below the January average but five per cent below February 1957.

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